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SITE ASSESSMENT REPORT ADDENDUM 3 FOR UNDERGROUND STORAGE TANK SITE
22 NAS PENSACOLA FL
1/1/2010
TETRA TECH

Comprehensive **L**ong-term **E**nvironmental **A**ction **N**avy

CONTRACT NUMBER N62467-04-D-0055



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Site Assessment Report Addendum III for **Underground Storage Tank** **Site 22 (IR Site 21)**

Naval Air Station Pensacola
Pensacola, Florida

Contract Task Order 0056

January 2010



NAS Jacksonville
Jacksonville, Florida 32212-0030

**SITE ASSESSMENT REPORT ADDENDUM III
FOR
UNDERGROUND STORAGE TANK SITE 22
(INSTALLATION RESTORATION SITE 21)**

**NAVAL AIR STATION PENSACOLA
PENSACOLA, FLORIDA**

**COMPREHENSIVE LONG-TERM
ENVIRONMENTAL ACTION NAVY (CLEAN) CONTRACT**

**Submitted to:
Naval Facilities Engineering Command
Southeast
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Jacksonville, Florida 32212**

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**CONTRACT NUMBER N62467-04-D-0055
CONTRACT TASK ORDER 0056**

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PROFESSIONAL CERTIFICATION

**Site Assessment Report Addendum III
UST Site 22, IR Site 21
Naval Air Station Pensacola, Pensacola, Florida**

This Site Assessment Report Addendum III was prepared under the direct supervision of the undersigned geologist using geologic and hydrogeologic principles standard to the profession at the time the report was prepared. If conditions are determined to exist that differ from those described, the undersigned geologist should be notified to evaluate the effects of additional information on the assessment described in this report. This report was developed specifically for the referenced site and should not be construed to apply to any other site.

Gerald Walker, P.G.
Florida License No. PG 1180

Date

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ACRONYMS

ATSDR	Agency for Toxic Substances and Disease Registry
AST	Aboveground Storage Tank
AVGAS	Aviation Gasoline
bls	Below Land Surface
BTEX	Benzene, toluene ethylbenzene and xylene
CAR	Contamination Assessment Report
CLEAN	Comprehensive Long-Term Environmental Action Navy
DEP-SOP-001/01	FDEP Field Activities SOPs
DPT	Direct-Push Technology
F.A.C.	Florida Administrative Code
FDEP	Florida Department of Environmental Protection
FID	Flame Ionization Detector
FL-PRO	Florida Petroleum Range Organics
FS	Field Sampling
GCTLs	Groundwater Cleanup Target Levels
ID	Inside Diameter
IR	Installation Restoration
mg/kg	milligrams per kilogram
MTBE	Methyl Tertiary-Butyl Ether
NAS	Naval Air Station
NADC	Natural Attenuation Default Concentration
NAVD	North American Vertical Datum 1988
NEESA	Naval Energy and Environmental Support Activity
NELAC	National Environmental Laboratory Accreditation Certification
NTU	Nephelometric Turbidity Unit
OVA	Organic Vapor Analyzer
PAH	Polycyclic Aromatic Hydrocarbon
PVC	Polyvinyl Chloride
PWC	Public Works Center
RAP	Remedial Action Plan
RBCA	Risk Based Corrective Action
RSS	Rescue Swim School
SARA	Site Assessment Report Addendum

ACRONYMS (CONTINUED)

SCTL	Soil Cleanup Target Level
SIM	selected ion monitor
SOP	Standard Operating Procedure
SPLP	Soil Precipitation Leaching Procedure
SW	Solid Waste
SWL	Static Water Level
TCL	Target Compound List
TRPH	Total Recoverable Petroleum Hydrocarbon
TtNUS	Tetra Tech NUS, Inc.
µg/L	micrograms per liter
UST	Underground Storage Tank
VOC	Volatile Organic Compounds

EXECUTIVE SUMMARY

Tetra Tech NUS, Inc. (TtNUS) has completed the Site Assessment Report Addendum III (SARA III) for Underground Storage Tank (UST) Site 22 [Installation Restoration (IR) Site 21] located at Naval Air Station (NAS) Pensacola, in Escambia County, Florida. This document was conducted in general accordance with the requirements of Chapter 62-770, Florida Administrative Code (F.A.C).

The main purpose of this SARA III is to further evaluate the extent of groundwater and soil contamination resulting from a former aviation gasoline (AVGAS) tank farm. Previously, various assessments have been conducted for the site. This addendum continues and supplements the conclusions and recommendation of the previous investigations.

Site Assessment

The following activities were conducted during the 2007 field event portion of this SARA III:

- Thirty-one (31) soil borings were advanced to a depth of up to 8.5 feet below land surface (bls) and sent to the on-site laboratory for analysis of BTEX, MTBE, and TRPH. The sampling locations were determined based on field screening methods and the progression of the samples was based on data received from the on-site mobile laboratory.
- Five soil samples were sent to the off-site laboratory for analysis of PAHs, VOCs, total lead, and TRPH.
- Groundwater samples were collected from 23 existing permanent monitoring wells. Three additional wells were installed to replace wells that could not be located due to Hurricane Ivan reconstruction activities. These monitoring well samples were sent to an off-site laboratory for analysis of select parameters including target compound list (TCL) VOCs, PAHs, TRPH, and total lead.
- Sixteen new shallow water table micro wells were installed based on the results of DPT investigations. Groundwater samples were collected from the newly installed monitoring wells and analyzed at an off-site laboratory for VOCs, PAHs, TRPH, and lead.
- Forty-two direct-push technology (DPT) groundwater samples were analyzed by a mobile laboratory for benzene, toluene, ethylbenzene, and xylene (BTEX), naphthalene, and methyl tertiary-butyl ether (MTBE). Nineteen of those DPT groundwater samples were sent to an off-site laboratory for confirmation analysis. Eleven samples were analyzed for total lead, polycyclic aromatic hydrocarbons (PAHs), volatile organic compounds (VOCs) and total recoverable petroleum hydrocarbons (TRPH). Three of the DPT samples were analyzed for total lead, PAHs, VOCs, and TRPH.

- Analytical results were compared to the Florida Department of Environmental Protection (FDEP) Soil Cleanup Target Levels (SCTLs), Groundwater Cleanup Target Levels (GCTLs), and Natural Attenuation Default Concentrations (NADCs) in Chapter 62-777, F.A.C.
- Groundwater levels were recorded and a groundwater isocontour map was produced.
- Evaluation of aquifer properties was conducted to interpret the movement of groundwater at the site.

The following activities were conducted in January 2009 as part of the SARA III:

- Seventeen (17) permanent monitoring wells were sampled and analyzed for lead, manganese, and zinc.
- One monitoring well was sampled and analyzed for VOCs, lead, manganese, and zinc.
- Groundwater levels were recorded and a groundwater isocontour map was produced.

Conclusions

Based on the data reported from the SARA I investigation:

- No free-phase petroleum hydrocarbons were detected in any of the monitoring wells.
- Fifteen (15) hand auger soil borings were completed to the water table to assess the extent of soil contamination. Confirmation soil samples collected from three soil borings contained TRPH concentrations exceeding FDEP SCTL for direct exposure - residential area [460 milligrams per kilogram (mg/kg)] and leachability to groundwater (340 mg/kg).
- Benzo(a)pyrene was detected in one subsurface soil sample at a concentration of 0.309 mg/kg, which exceeds the SCTL for direct exposure (residential area), but was below the SCTL for leachability to groundwater. Direct exposure is not a significant concern because of the sample collection depth (3.5 feet bls). All other detected PAHs were below the applicable SCTLs.
- Copper and lead were detected in a single on-site soil sample at concentrations exceeding the applicable FDEP SCTLs. The concentrations of copper and lead in the sample exceeded the direct exposure (residential area) SCTLs. These samples were collected from 5 feet bls; therefore, direct exposure is not a significant concern.
- Total xylenes was the only VOC detected in groundwater samples at a concentration exceeding the FDEP GCTL. The compound was detected in a single monitoring well (MW05) at a concentration (23 µg/L) exceeding the FDEPs GCTL of 20 µg/L.
- TRPH was detected in groundwater samples from two monitoring wells (MW05 at 6,800 µg/L and MW19 at 7,120 µg/L) at concentrations exceeding the FDEP GCTL of 5,000 µg/L.

- Lead was detected at concentrations exceeding the FDEP GCTL (15 µg/L) in samples collected from nine monitoring wells MW04 (18.2 µg/L), MW05 (24.4 µg/L), MW10 (51.2 µg/L), MW11 (152 µg/L), MW12 (31.8 µg/L), MW13 (25.6 µg/L), MW15 (17.8 µg/L), MW19 (18.4 µg/L), and MW23 (88.4 µg/L).
- The absence of detected analytes in the groundwater sample from deep monitoring well DMW29 and the limited detection of an analyte in deep monitoring well DMW30 define the vertical extent of the groundwater contamination at the site.
- The average groundwater horizontal hydraulic gradient of the site is 0.0021 feet per foot. The average groundwater vertical gradient was upward at 0.0015 feet per foot and the estimated average hydraulic conductivity at the site is 5.2587×10^{-5} feet per second.
- The theoretical groundwater seepage (linear) velocity is calculated to be approximately 2,321 feet per year. When natural retarding processes are taken into considered using a retardation factor in the velocity equation, the estimated groundwater seepage velocity is approximately 13 feet per year.

The purpose of the SARA II was to address the comments from the FDEP to the SARA I. The conclusions of the report were as follows:

- Field headspace screening results indicate that petroleum impact to soil has occurred at the western end of the site, south of Radford Boulevard. Because headspace screening detections are limited to samples collected from intervals immediately above the water table, the soil contamination in this area most likely resulted from groundwater level fluctuations over time producing a smear zone of soil exposed to contaminated groundwater.
- Fixed-base laboratory analyses indicated that TRPH concentrations were above the residential and leachability SCTLs. Because soil samples collected were from the intervals immediately above the water table, the TRPH concentrations most likely represent groundwater impact to the smear zone or capillary fringe, and may not be due to contamination of vadose zone soil. Three soil samples from this area were submitted for soil precipitation leaching procedure (SPLP) extraction and TRPH analysis. TRPH was below the laboratory detection limits in the three samples extracted and analyzed. Groundwater samples collected from the monitoring wells installed in this area had TRPH concentrations below the GCTL for TRPH.
- Two surface soil samples collected south of Building 670 had PAH detections at concentrations exceeding SCTLs. The surface soil sample from SB29 had five PAH compounds exceeding the SCTLs. Soil boring SB29 was the western-most boring advanced in this area during the SAR addendum investigation. Lead and copper concentrations in the soil samples collected during this investigation were below the SCTLs.

- The extent of the dissolved lead groundwater plume reported from previous investigations at the eastern end of the site appears to be delineated. Previous work at the site and results from the most recent investigation indicate that this plume originates north of Radford Boulevard and extends south to the former location of Building 645. The lead GCTL exceedance detected in MW43 appears to be separate from the original lead plume and may originate from a different release.

Following the conclusions and recommendations from SARA II, a Triad approach was used to better define the contamination in soil and groundwater at the site. Extensive soil and groundwater sampling has been conducted throughout the history of investigation at Site 22, as seen on Figure 5-1. A schematic illustrating the areas that have reported high detections of contaminants throughout the history of the investigation at Site 22 is shown on Figure 5-2.

Recommendations

In accordance with the conclusions in the SARA I, SARA II and with the results of the investigations from SARA III, TtNUS recommends that a RAP be completed to address the TRPH contaminated soils and groundwater at UST Site 22. In addition to the proposed RAP, confirmatory groundwater sampling should be completed to verify the reported high concentrations of ethylbenzene and inconsistencies between lead concentrations in groundwater, and confirmatory soil sampling should be conducted around DP26S due to high detections of PAHs prior to remedial plan design.

Inorganic petroleum constituents comprise two separate plumes of groundwater exceeding the GCTL across the southern portion of the site. The plumes appear to originate from two former AST locations. The delineated plumes cover approximately two acres in total area. Monitoring only is recommended for these locations since exposure is unlikely and due to the delicate nature of the restored landscape in those areas.

Results of the supplemental sampling event conclude that the lead in groundwater is not naturally occurring. Furthermore, there is not a continuing source, as evidenced by the fact that there is not a defined pattern to the lead exceedances at the site. Exceedances of the GCTLs for lead and manganese were encountered during the study. Also, there was an exceedance of the NADC criteria for lead at monitoring well MW11, a monitoring well located at the edge or immediately downgradient of a former AST. TtNUS recommends groundwater monitoring only. However, due to the erratic nature of the lead exceedances, the number of monitoring locations should be increased to include all on-site monitoring wells for at least one event. This has not previously occurred and would give an overall representation of lead concentrations in groundwater across the site. Further monitoring could be adjusted based on results of this event. In addition, an upgradient monitoring well should be designated as a site-specific background location for comparison of future groundwater sampling events.

1.0 SITE DESCRIPTION AND BACKGROUND INFORMATION

This Site Assessment Report Addendum (SARA) III has been prepared by Tetra Tech NUS, Inc. (TtNUS) under the Comprehensive Long-term Environmental Action Navy (CLEAN) IV Contract Number N62467-04-D-0055 Contract Task Order 0056 for the additional assessment of Underground Storage Tank (UST) Site 22 [Installation Restoration (IR) Site 21], located at Naval Air Station (NAS) Pensacola, Florida.

1.1 SITE LOCATION AND CONDITIONS

NAS Pensacola (Figure 1-1) is located in Escambia County, in Florida's northwest coastal area, approximately five miles west of the Pensacola City limits. The approximately 5,000-acre installation was constructed in the 1800's. Prior to construction, the facility was undeveloped and sparsely vegetated.

Current land use at NAS Pensacola consists of areas used for flight operations at Forrest Sherman Field, various military housing, training, support activities, and historical facilities open to the public including Gulf Islands National Seashore and the National Museum of Naval Aviation.

The site under investigation, UST Site 22 (Figure 1-2) is located in the southeastern portion of the facility, immediately north of and adjacent to the NAS Pensacola waterfront on Pensacola Bay. The site is mostly unpaved and it is bordered to the north by the newly constructed Rescue Swim School (RSS) and Gymnasium. To the west, east and south, the site is bordered by paved areas consisting of Duncan Road, a parking lot, and Pensacola Bay, respectively. The total area covered by the site is approximately 23 Acres.

Site 22 and the surrounding area have undergone extensive construction/demolition activities since the Fall of 2004. Site conditions as of January 2009 are presented on Figure 1-3. The spike in activity was brought on by the landfall of Hurricane Ivan and a pre-existing need for updates to the general facility. Projects that are ongoing or that have recently been completed at Site 22 include:

- Beach/Seawall restoration program that involved the removal of several buildings, the old obstacle course and a tennis court along the heavily damaged seawall area of the site. The area was subsequently graded with beach sand and planted with native vegetation.
- Construction of the new RSS and gymnasium.
- Construction of a new parking lot and sidewalks.
- Demolition of the barracks adjacent to the northern section of the site.
- Re-paving of Radford Boulevard.

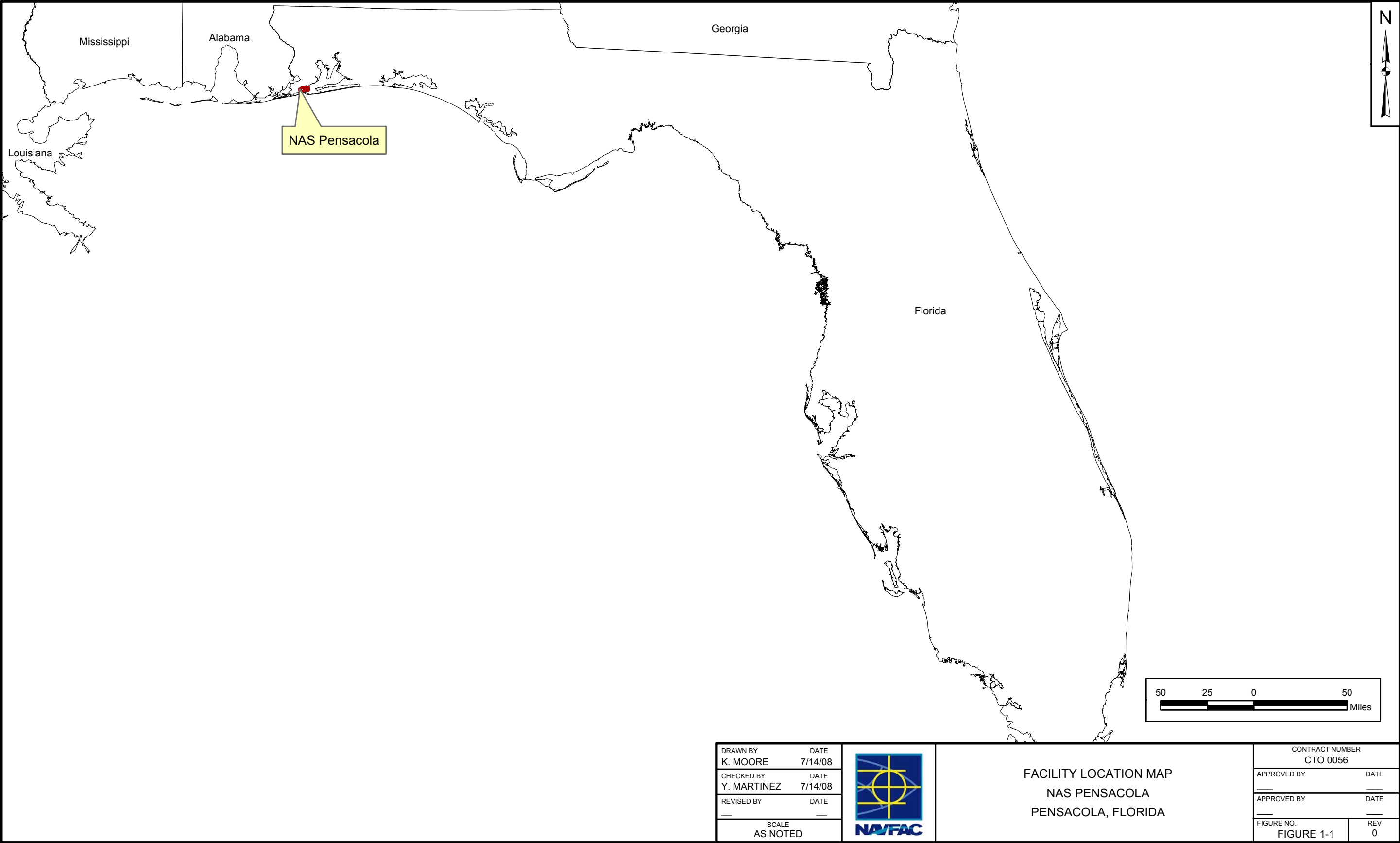
As expected, several monitoring wells in the study area have been either destroyed or covered. Three wells, MW31, MW54, and MW46, have been replaced.

1.2 SITE HISTORY

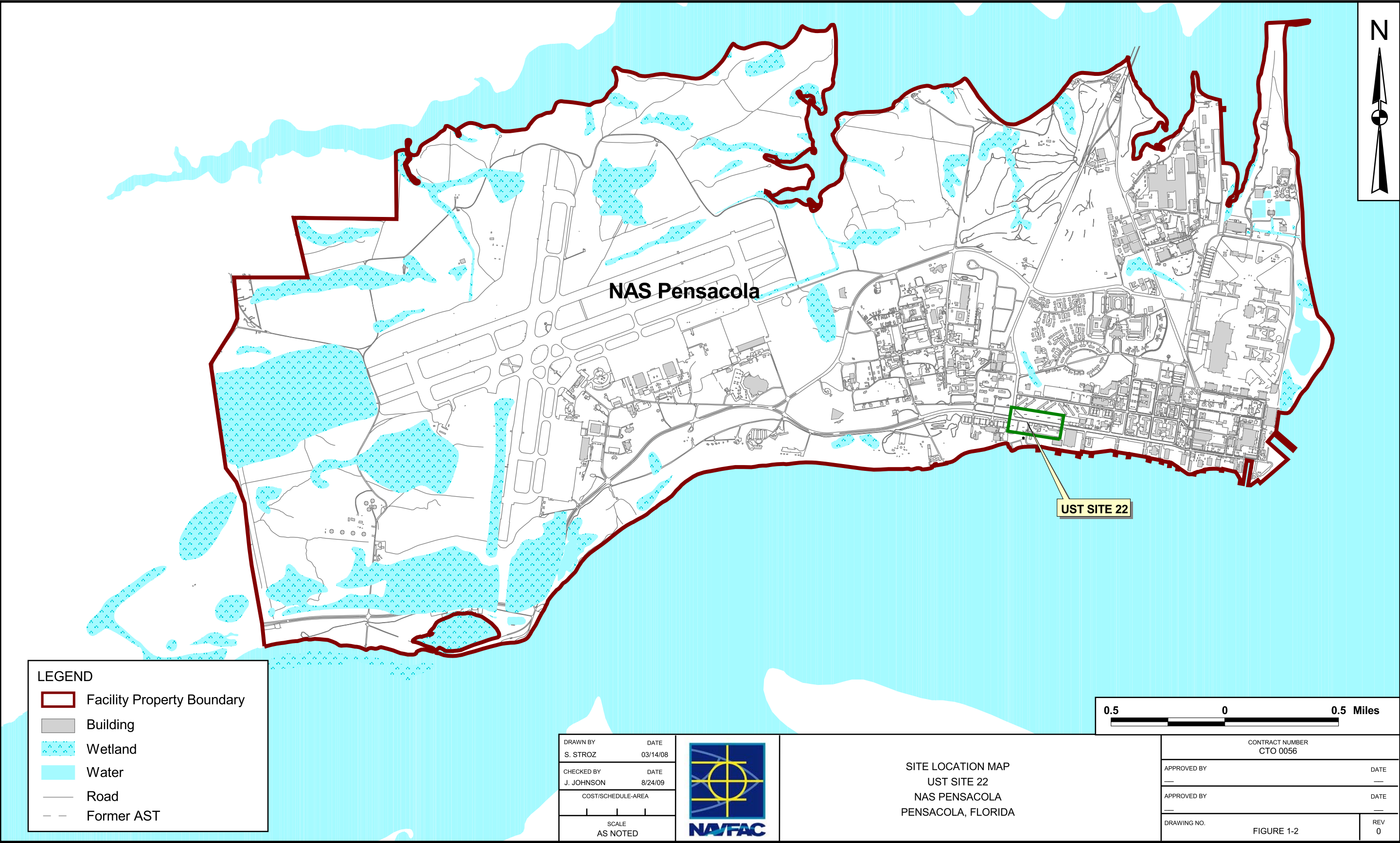
Naval operations began on Pensacola Bay in 1825, and expanded between 1828 and 1835. However, after several natural disasters in the early 1900s, the Navy Yard was forced into maintenance status for a three-year period. In 1914, the first U.S. Naval Air Station was established and became the primary training base for naval aviators. NAS Pensacola is known as the “Cradle of Naval Aviation” because it is where every Naval Aviator, Naval Flight Officer, and enlisted air crewman begins flight training. It is also the Navy’s premier location for enlisted aviation technical training [Agency for Toxic Substances and Disease Registry (ATSDR), 2006].

Site 22 is the former location of an Aviation Gasoline (AVGAS) tank farm. From approximately 1940 to the late 1960’s, nine above ground storage tanks (ASTs) were used to store aviation gasoline at the site. The tanks were annually cleaned and the sludge from the bottoms of the tanks was disposed on the ground surface in the immediate vicinity of the tanks from 1951 to 1967 (NEESA 1983). The ASTs were removed from the site at an unknown date. It is unknown if any soils were excavated and disposed of during the tank removal. The majority of the site is currently covered with grass. Building 670, a former fuel system pump house, was located at the eastern edge of the site, south of Radford Boulevard. Two underground storage tanks (USTs) for contaminated fuel were reportedly associated with Building 670.

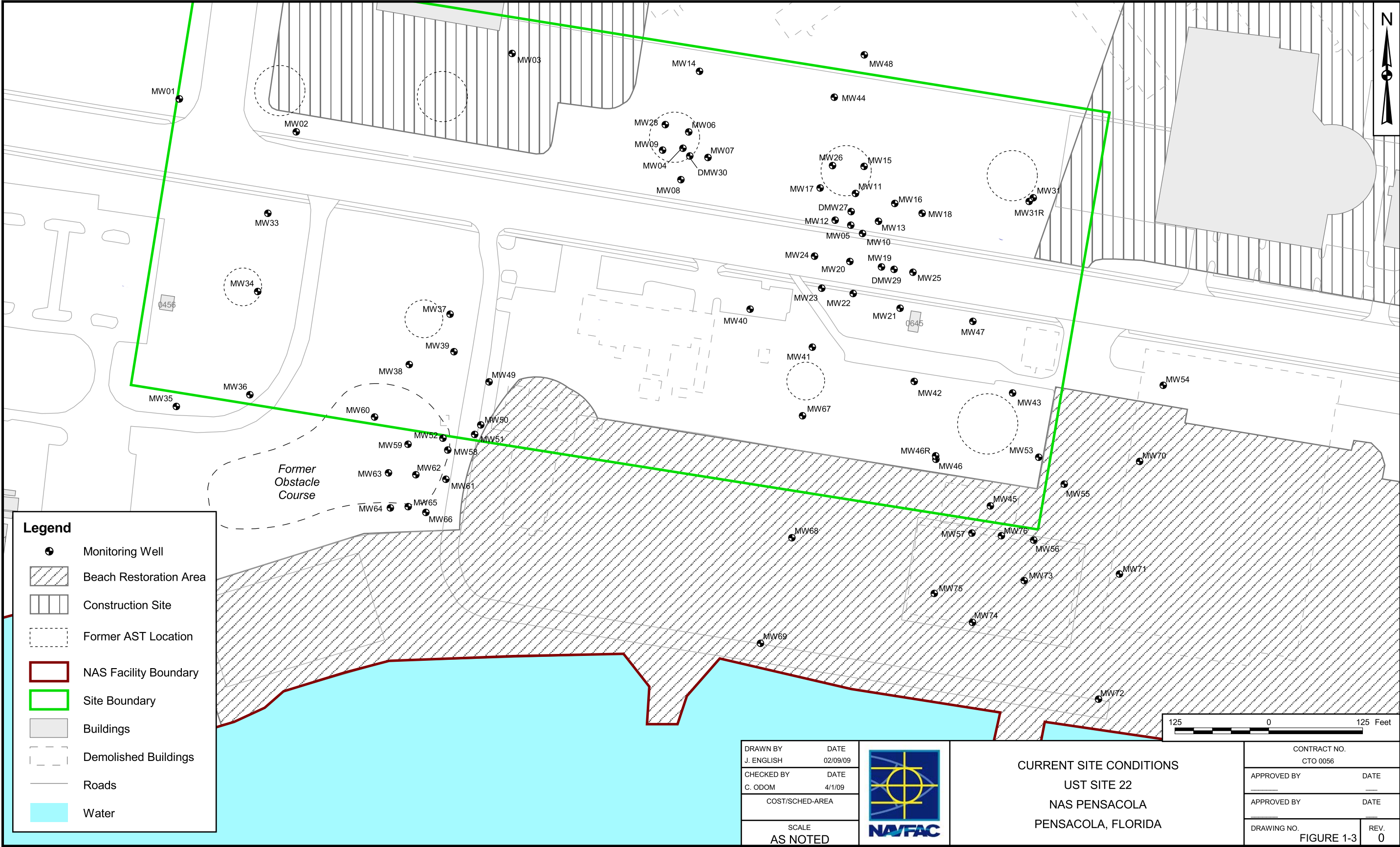
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P:\GIS\PENSACOLA_NAS\APR\SITE21.APR SITE LOCATION LAYOUT 8/24/09 SS



P:\GIS\PENSACOLA_NAS\MAPDOCS\APR\SITE21.APR SITE 22 WORK AREAS LAYOUT 4/1/09 KM



2.0 PREVIOUS INVESTIGATIONS

Previous investigations at the site include the Phase I IR assessment conducted in 1991, a Contamination Assessment Report (CAR) in 1997, and two assessment addendums, SARA I and SARA II, were completed in 2001 and 2003, respectively.

The sampling activities for Phase I IR included 18 soil borings, five temporary wells and a soil headspace survey [Public Works Center (PWC), 1997]. Concentrations of chromium, zinc, lead, copper, total xylenes, phenol, and total recoverable petroleum hydrocarbons (TRPH) were detected in the groundwater. However, only zinc, lead, and TRPH reported concentrations that exceeded the 1991 Florida Primary Drinking Water Standards [Florida Department of Environmental Protection (FDEP)]. In addition, TRPH was detected in 7 of the 18 borings, and one sample reported elevated polycyclic aromatic hydrocarbons (PAHs). Also, a thin layer of free product or petroleum sheen was detected, but it should be noted that this sheen has not been observed in any of the later investigations.

In June 1997, the NAS Pensacola Navy PWC submitted the CAR based on additional investigations to address the findings of the previous report. This investigation included 113 soil borings analyzed via organic vapor analyzer (OVA) and 25 shallow monitoring wells. Concentrations of TRPH, volatile organic compounds (VOCs), PAHs, and lead were detected above FDEP regulatory limits in groundwater samples taken during the assessment (Table 2-1). Based on the results, the recommendations given in the report were to propose the site as No Further Action and Monitoring Only Plan for PAHs, total lead, and TRPH. The locations of sample exceedances to regulatory standards from the CAR are shown on Figure 2-1.

Upon review of the CAR prepared by the Navy, the FDEP issued a technical review letter on August 25, 1997, which requested additional site assessment in order to meet the requirements of Chapter 62-770, Florida Administrative Code (F.A.C.). The SARA I investigation was conducted from May to July 2000. Areas investigated under this effort were identified prior to the field work. The investigation targeted areas where petroleum constituent concentrations in soil or groundwater exceeded regulatory criteria.

The investigation included 16 confirmation soil samples for laboratory analysis based on flame ionization detector (FID) headspace screening results, field observations, and/or proximity to the seasonal high groundwater level. Twenty-three (23) groundwater samples were collected from existing monitoring wells at the site to be analyzed for VOCs; including methyl tertiary-butyl ether (MTBE), PAHs, TRPHs, and total lead. Naphthalene, 1-methylnaphthalene, 2-methylnaphthalene, TRPH, lead, and xylenes were detected

above Groundwater Cleanup Target Levels (GCTLs) in groundwater samples (Table 2-2). Naphthalene, TRPH, copper, lead, and zinc were detected above regulatory standards in the soil samples as identified in Table 2-3. The locations of the soil and groundwater sample exceedances to the Soil Cleanup Target Levels (SCTLs) and GCTLs are shown on Figure 2-2. Based on the additional assessment data, the SARA I report recommended additional soil delineation and groundwater monitoring at the site.

On April 20, 2001, FDEP issued a technical review letter agreeing with the SARA I recommendations and requested that additional assessment be conducted at the site before preparation of the Remedial Action Plan (RAP).

In April 2003, TtNUS submitted a SARA II letter report to document field activities completed between October 2002 and February 2003. The field activities included advancement of 33 soil borings for soil head space screening and soil sample collection, and installation of 12 monitoring wells for groundwater sampling. Benzo(a)pyrene, benzo(a)anthracene, benzo(a)fluoranthene, dibenzo(a,h)anthracene, indeno(1,2,3)pyrene, copper, lead, and zinc were detected above SCTLs in the soil samples collected as part of the study. TRPH and lead were detected above the GCTLs in the groundwater samples collected during the assessment activities. A summary of the results of the 2003 groundwater sampling activities is presented in Table 2-4. The groundwater sample exceedances to GCTL regulatory standards are shown on Figure 2-3.

Based on the SARA II (TtNUS, 2003), the report recommended that additional site assessment be conducted and specifically recommended further delineation of TRPH and PAHs in soil and lead in groundwater. The SARA II also recommended that once the contaminants were delineated, a RAP should be prepared to address dissolved lead contamination in groundwater. The source of the lead contamination in groundwater at the site appears to be associated with former ASTs north of Radford Boulevard at the eastern perimeter of the site. Although the ASTs were removed from the site, it is unknown if any soils were excavated and disposed of during the tank removal. In addition it was reported that the tanks were used to store AVGAS and were annually cleaned and the sludge from the bottoms of the tanks was disposed on the ground surface in the immediate vicinity of the tanks. Lead is a well known indicator parameter of AVGAS.

In May 2007, TtNUS personnel conducted two phases of field activities as part of the SARA III. The first phase of the field event was conducted using a drill crew and direct-push technology (DPT) rig. Both soil samples and groundwater were collected. Samples were analyzed on site using a mobile laboratory. The second phase included installation and sampling of 16 permanent monitoring wells. Locations were determined using mobile laboratory data. After installation, all wells were developed and sampled using low flow purge and sample techniques.

The soil samples collected detected total xylene and lead at concentrations above their respective SCTL in the study area. TRPH, ethylbenzene, benzo(b)fluoranthene, dibenzo(a,h)anthracene, 1-methylnaphthalene and 2-methylnaphthalene, naphthalene, benzo(a)anthracene, and lead were detected in groundwater samples at concentrations exceeding their respective GCTLs.

It should be noted that throughout the history of this site investigation, three sets of FDEP criteria were used. Revisions were made to the criteria on May 26, 1999 and April 17, 2005. The resulting target levels were only slightly different from those in the previous edition of the rules. The data collected during each segment of the study were compared to the most current criteria available at the time.

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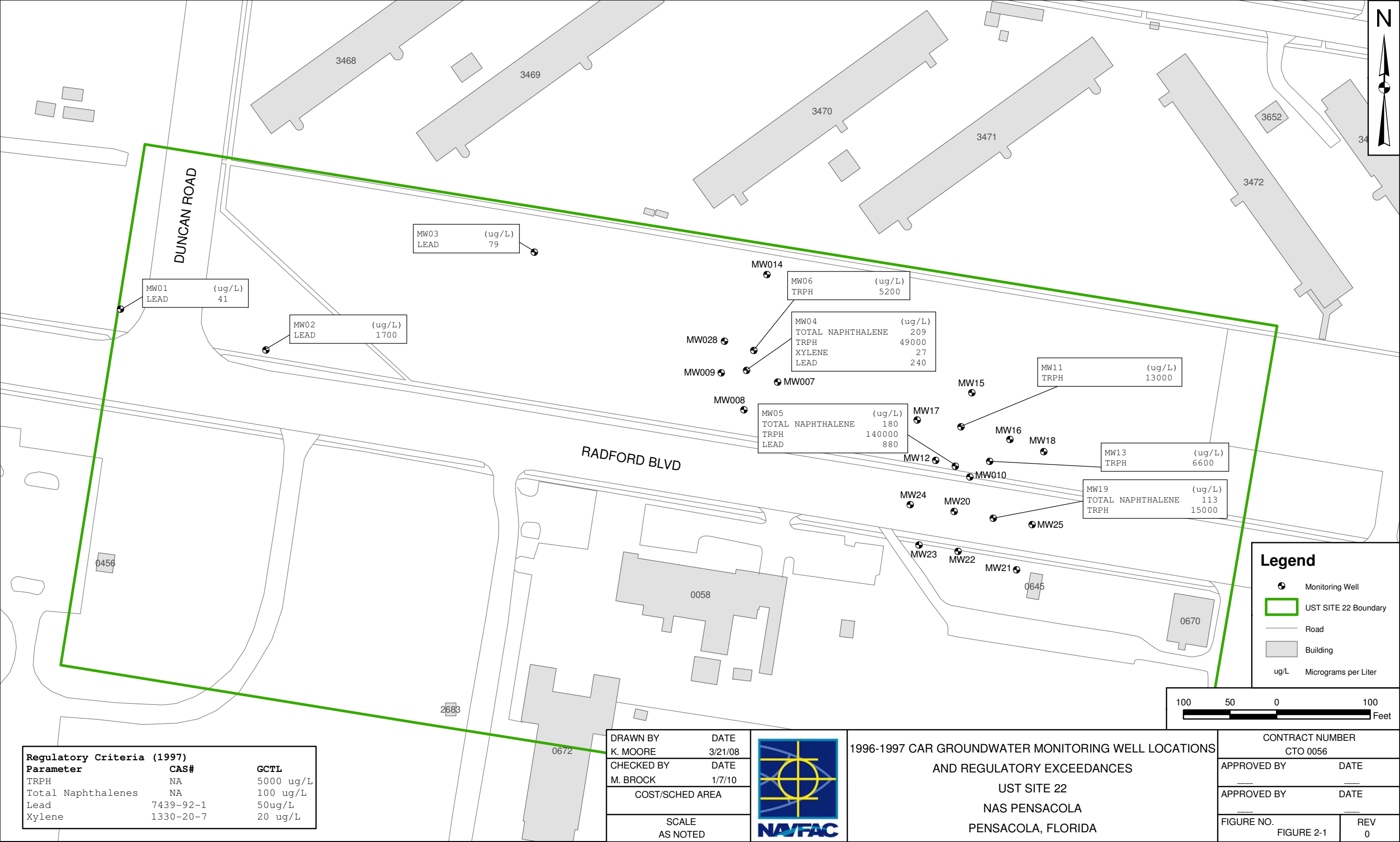


TABLE 2-1
SUMMARY OF 1997 CAR GROUNDWATER ANALYTICAL RESULTS
UST SITE 22
NAVAL AIR STATION PENSACOLA
PENSACOLA, FLORIDA
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Sample No. Sample Location Collect Date	GCTL ⁽¹⁾	NASP21MW01GW MW01 2/9/1996	NASP21MW02GW MW02 2/9/1996	NASP21MW03GW MW03 2/9/1996	NASP21MW04GW MW04 2/9/1996	NASP21MW05GW MW05 2/9/1996
Analyte (CAS #)						
<u>Volatile Organic Compounds ⁽²⁾ (ug/L)</u>						
Benzene (71-43-2)	1	1 U	1 U	1 U	1 U	1 U
Bromodichloromethane (75-27-4)	0.6	NS	NS	NS	NS	NS
Ethylbenzene (100-41-4)	30	1 U	1 U	1 U	2	1
Toluene (108-88-3)	40	1 U	1 U	1 U	1 U	1
Trichlorofluoromethane (75-69-4)	2100	NS	NS	NS	NS	NS
Xylenes (1330-20-7)	20	2 U	2 U	2 U	27	17
<u>Polycyclic Aromatic Hydrocarbons ⁽³⁾ (ug/L)</u>						
Fluorene (86-73-7)	280	4 U	4 U	4 U	4 U	4 U
1-Methylnaphthalene (90-12-0)	20	5 U	5 U	5 U	57	52
2-Methylnaphthalene (91-57-6)	20	7 U	7 U	7 U	100	80
Naphthalene (91-20-3)	20	7 U	7 U	7 U	52	48
<u>Total Recoverable Petroleum Hydrocarbons ⁽⁴⁾ (ug/L)</u>						
	5,000	1,000 U	1,000 U	1,000 U	49,000	140,000
<u>Metals ⁽⁵⁾ (ug/L)</u>						
Lead (7439-92-1)	15	41	1700	79	240	880

Notes:

¹ Groundwater Cleanup Criteria as provided in Chapter 62-777,F.A.C.

² SW-846 8260B, ³ SW-846 8310, ⁴ FL-PRO, ⁵ SW-846 6010B U = Analyte not detected above laboratory method detection limit

Bold indicates exceedance of regulatory limits. NS = Location not sampled for this parameter

ug/L = micrograms per liter

TABLE 2-1
SUMMARY OF 1997 CAR GROUNDWATER ANALYTICAL RESULTS
UST SITE 22
NAVAL AIR STATION PENSACOLA
PENSACOLA, FLORIDA
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Sample No. Sample Location Collect Date	GCTL ⁽¹⁾	NASP21MW06GW MW06 7/31/1996	NASP21MW07GW MW07 7/31/1996	NASP21MW08GW MW08 7/31/1996	NASP21MW09GW MW09 7/31/1996	NASP21MW10GW MW10 7/31/1996
Analyte (CAS #)						
<u>Volatile Organic Compounds ⁽²⁾ (ug/L)</u>						
Benzene (71-43-2)	1	1 U	1 U	1 U	1 U	1 U
Bromodichloromethane (75-27-4)	0.6	1 U	1 U	1 U	1 U	2
Ethylbenzene (100-41-4)	30	1 U	1 U	1 U	1 U	1 U
Toluene (108-88-3)	40	1 U	1 U	1 U	1 U	1 U
Trichlorofluoromethane (75-69-4)	2100	1 U	1 U	1 U	1 U	1 U
Xylenes (1330-20-7)	20	1 U	1 U	1 U	1 U	1 U
<u>Polycyclic Aromatic Hydrocarbons ⁽³⁾ (ug/L)</u>						
Fluorene (86-73-7)	280	4 U	4 U	4 U	4 U	4 U
1-Methylnaphthalene (90-12-0)	20	5 U	5 U	5 U	5 U	17
2-Methylnaphthalene (91-57-6)	20	7 U	7 U	7 U	7 U	18
Naphthalene (91-20-3)	20	7 U	7 U	7 U	7 U	12
<u>Total Recoverable Petroleum Hydrocarbons ⁽⁴⁾ (ug/L)</u>						
	5,000	5,200	250 U	250 U	1,400	2,400
<u>Metals ⁽⁵⁾ (ug/L)</u>						
Lead (7439-92-1)	15	NS	NS	NS	NS	NS

Notes:

¹ Groundwater Cleanup Criteria as provided in Chapter 62-777,F.A.C.

² SW-846 8260B, ³ SW-846 8310, ⁴ FL-PRO, ⁵ SW-846 6010B U = Analyte not detected above laboratory method detection limit

Bold indicates exceedance of regulatory limits. NS = Location not sampled for this parameter

ug/L = micrograms per liter

**TABLE 2-1
SUMMARY OF 1997 CAR GROUNDWATER ANALYTICAL RESULTS
UST SITE 22
NAVAL AIR STATION PENSACOLA
PENSACOLA, FLORIDA
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Sample No. Sample Location Collect Date	GCTL ⁽¹⁾	NASP21MW11GW MW11 7/31/1996	NASP21MW12GW MW12 7/31/1996	NASP21MW13GW MW13 7/31/1996	NASP21MW14GW MW14 9/25/1996	NASP21MW15GW MW15 9/25/1996
Analyte (CAS #)						
<u>Volatile Organic Compounds ⁽²⁾ (ug/L)</u>						
Benzene (71-43-2)	1	1 U	1 U	1 U	1 U	1 U
Bromodichloromethane (75-27-4)	0.6	1 U	1 U	1 U	1 U	2
Ethylbenzene (100-41-4)	30	1 U	1 U	1 U	1 U	1 U
Toluene (108-88-3)	40	1 U	1 U	1 U	1 U	1 U
Trichlorofluoromethane (75-69-4)	2100	1 U	1 U	1 U	1 U	1 U
Xylenes (1330-20-7)	20	12	1 U	1 U	1 U	1 U
<u>Polycyclic Aromatic Hydrocarbons ⁽³⁾ (ug/L)</u>						
Fluorene (86-73-7)	280	4 U	4 U	4 U	2 U	2 U
1-Methylnaphthalene (90-12-0)	20	5 U	5 U	13	2 U	2 U
2-Methylnaphthalene (91-57-6)	20	7 U	7 U	13	3 U	3 U
Naphthalene (91-20-3)	20	7 U	7 U	7 U	2 U	2 U
<u>Total Recoverable Petroleum Hydrocarbons ⁽⁴⁾ (ug/L)</u>						
	5,000	13000	250 U	6600	250 U	250 U
<u>Metals ⁽⁵⁾ (ug/L)</u>						
Lead (7439-92-1)	15	NS	NS	NS	NS	NS

Notes:

¹ Groundwater Cleanup Criteria as provided in Chapter 62-777,F.A.C.

² SW-846 8260B, ³ SW-846 8310, ⁴ FL-PRO, ⁵ SW-846 6010B U = Analyte not detected above laboratory method detection limit

Bold indicates exceedance of regulatory limits. NS = Location not sampled for this parameter

ug/L = micrograms per liter

TABLE 2-1
SUMMARY OF 1997 CAR GROUNDWATER ANALYTICAL RESULTS
UST SITE 22
NAVAL AIR STATION PENSACOLA
PENSACOLA, FLORIDA
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Sample No. Sample Location Collect Date	GCTL ⁽¹⁾	NASP21MW16GW MW16 9/25/1996	NASP21MW17GW MW17 9/25/1996	NASP21MW18GW MW18 9/25/1996	NASP21MW19GW MW19 9/25/1996	NASP21MW20GW MW20 9/25/1996
Analyte (CAS #)						
<u>Volatile Organic Compounds ⁽²⁾ (ug/L)</u>						
Benzene (71-43-2)	1	1 U	1 U	1 U	1 U	1 U
Bromodichloromethane (75-27-4)	0.6	1 U	1 U	1 U	1 U	1 U
Ethylbenzene (100-41-4)	30	1 U	1 U	1 U	2	1 U
Toluene (108-88-3)	40	1 U	1 U	1 U	1 U	1 U
Trichlorofluoromethane (75-69-4)	2100	1 U	1 U	2	1 U	1 U
Xylenes (1330-20-7)	20	1 U	1 U	1 U	2	1 U
<u>Polycyclic Aromatic Hydrocarbons ⁽³⁾ (ug/L)</u>						
Fluorene (86-73-7)	280	2 U	2 U	2 U	3	2 U
1-Methylnaphthalene (90-12-0)	20	2 U	2 U	2 U	48	3
2-Methylnaphthalene (91-57-6)	20	3 U	3 U	3 U	47	3 U
Naphthalene (91-20-3)	20	2 U	2 U	2 U	18	2 U
<u>Total Recoverable Petroleum Hydrocarbons ⁽⁴⁾ (ug/L)</u>						
	5,000	250 U	250 U	250 U	15000	NS
<u>Metals ⁽⁵⁾ (ug/L)</u>						
Lead (7439-92-1)	15	NS	NS	NS	NS	NS

Notes:

¹ Groundwater Cleanup Criteria as provided in Chapter 62-777,F.A.C.

² SW-846 8260B, ³ SW-846 8310, ⁴ FL-PRO, ⁵ SW-846 6010B U = Analyte not detected above laboratory method detection limit

Bold indicates exceedance of regulatory limits. NS = Location not sampled for this parameter

ug/L = micrograms per liter

**TABLE 2-1
SUMMARY OF 1997 CAR GROUNDWATER ANALYTICAL RESULTS
UST SITE 22
NAVAL AIR STATION PENSACOLA
PENSACOLA, FLORIDA
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Sample No. Sample Location Collect Date	GCTL ⁽¹⁾	NASP21MW21GW MW21 11/20/1996	NASP21MW22GW MW22 11/20/1996	NASP21MW23GW MW23 11/20/1996	NASP21MW24GW MW24 11/20/1996	NASP21MW25GW MW25 11/20/1996
Analyte (CAS #)						
<u>Volatile Organic Compounds ⁽²⁾ (ug/L)</u>						
Benzene (71-43-2)	1	1 U	1 U	1 U	1 U	1 U
Bromodichloromethane (75-27-4)	0.6	1 U	1 U	1 U	1 U	1 U
Ethylbenzene (100-41-4)	30	1 U	1 U	1 U	1 U	1 U
Toluene (108-88-3)	40	1 U	1 U	1 U	1 U	1 U
Trichlorofluoromethane (75-69-4)	2100	1 U	1 U	1 U	1 U	1 U
Xylenes (1330-20-7)	20	1 U	1 U	1 U	1 U	1 U
<u>Polycyclic Aromatic Hydrocarbons ⁽³⁾ (ug/L)</u>						
Fluorene (86-73-7)	280	2 U	2 U	2 U	2 U	2 U
1-Methylnaphthalene (90-12-0)	20	2	2 U	2 U	2 U	2 U
2-Methylnaphthalene (91-57-6)	20	3 U	3 U	3 U	3 U	3 U
Naphthalene (91-20-3)	20	2 U	2 U	2 U	2 U	2 U
<u>Total Recoverable Petroleum Hydrocarbons ⁽⁴⁾ (ug/L)</u>						
	5,000	290	250 U	250 U	250 U	250 U
<u>Metals ⁽⁵⁾ (ug/L)</u>						
Lead (7439-92-1)	15	NS	NS	NS	NS	NS

Notes:

¹ Groundwater Cleanup Criteria as provided in Chapter 62-777,F.A.C.

² SW-846 8260B, ³ SW-846 8310, ⁴ FL-PRO, ⁵ SW-846 6010B U = Analyte not detected above laboratory method detection limit

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ug/L = micrograms per liter

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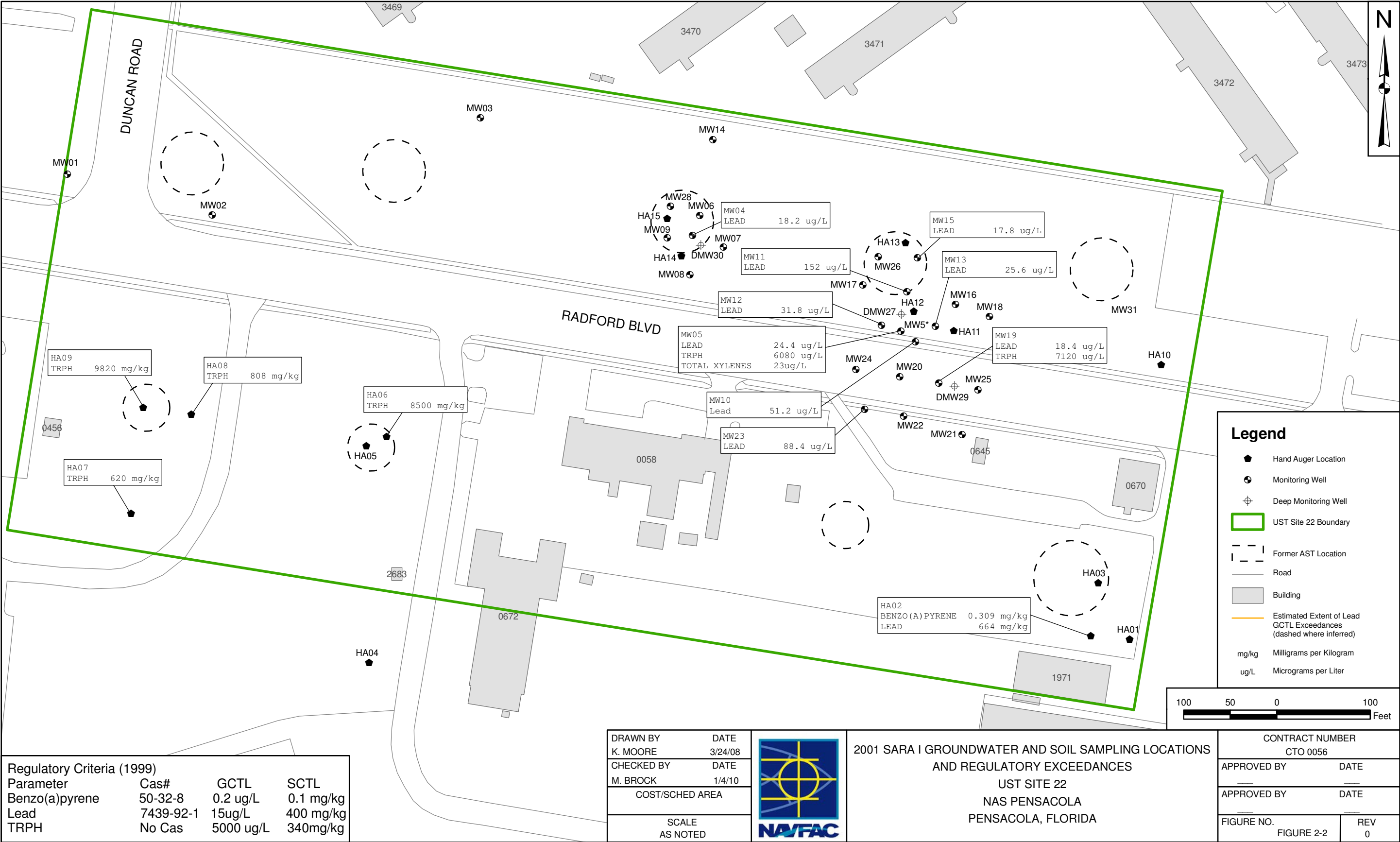


TABLE 2-2
SUMMARY OF 2001 SARA I GROUNDWATER ANALYTICAL RESULTS
UST SITE 22
NAVAL AIR STATION PENSACOLA
PENSACOLA, FLORIDA
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Sample No. Sample Location Collect Date	GCTL ⁽¹⁾ (µg/L)	NASP21MW02GW MW-2 6/24/2000	NASP21D002 Duplicate MW-2 6/27/2000	NASP21MW04GW MW-4 6/24/2000	NASP21MW05GW MW-5 6/24/2000	NASP21MW06GW MW-6 6/24/2000
Analyte (CAS #)						
<u>Volatile</u> ⁽²⁾ (µg/L)						
1,1-Dichloroethene (75-35-4)	7	0.69 J	0.61 J	1 U	1 U	1 U
Cis-1,2-Dichloroethene (156-59-2)	70	1 U	1 U	1 U	1 U	1 U
Ethylbenzene (100-41-4)	30	1 U	2.9	1 U	3.7	1 U
Xylenes (1330-20-7)	20	3 U	4 U	2.8 J	23	1 U
<u>Polycyclic Aromatic Hydrocarbons</u> ⁽³⁾ (µg/L)						
1-Methylnaphthalene (90-12-0)	20	2 U	2 U	7.9	17.4	6.7
2-Methylnaphthalene (91-57-6)	20	2 U	2 U	6.6	15.6	6.5
Naphthalene (91-20-3)	20	2 U	2 U	2.4	16.7	2.2 U
Total Recoverable Petroleum Hydrocarbons ⁽⁴⁾ (µg/L)						
	5,000	0.28 U	0.25 U	2,580	6,080	921
<u>Metals</u> ⁽⁵⁾ (µg/L)						
Lead (7439-92-1)	15	1.6 U	1.6 U	18.2	24.4	1.6 U

Notes:

¹ Groundwater Cleanup Criteria as provided in Chapter 62-777,F.A.C.

² SW-846 8260B, ³ SW-846 8310, ⁴ FL-PRO, ⁵ SW-846 6010B

Bold indicates exceedance of regulatory limits. U = Analyte not detected above laboratory method detection limit

J = analyte detected at an estimated concentration. µg/L = micrograms per liter

TABLE 2-2
SUMMARY OF 2001 SARA I GROUNDWATER ANALYTICAL RESULTS
UST SITE 22
NAVAL AIR STATION PENSACOLA
PENSACOLA, FLORIDA
PAGE 2 OF 5

Sample No. Sample Location Collect Date	GCTL ⁽¹⁾ (µg/L)	NASP21MW07GW MW-7 6/24/2000	NASP21D001 Duplicate MW-7 6/24/2000	NASP21MW08GW MW-8 6/26/2000	NASP21MW10GW MW-10 6/24/2000	NASP21MW11GW MW-11 6/26/2000
Analyte (CAS #)						
<u>Volatile ⁽²⁾ (ug/L)</u>						
1,1-Dichloroethene (75-35-4)	7	1 U	1 U	1 U	1 U	1 U
Cis-1,2-Dichloroethene (156-59-2)	70	1 U	1 U	1 U	1 U	1 U
Ethylbenzene (100-41-4)	30	1 U	1 U	1 U	2.6	2
Xylenes (1330-20-7)	20	3 U	3 U	3 U	13	11.1
<u>Polycyclic Aromatic Hydrocarbons ⁽³⁾ (ug/L)</u>						
1-Methylnaphthalene (90-12-0)	20	2 U	2 U	1.6 J	10.9	3
2-Methylnaphthalene (91-57-6)	20	2 U	2 U	1.3 J	11.5	2 U
Naphthalene (91-20-3)	20	2 U	2 U	1.6 J	12.5	7.2
<u>Total Recoverable Petroleum Hydrocarbons ⁽⁴⁾ (µg/L)</u>						
	5,000	0.25 U	0.28 U	0.25 U	3,140	4,630
<u>Metals ⁽⁵⁾ (ug/L)</u>						
Lead (7439-92-1)	15	8.2 U	10.7	2.9	51.2	152

Notes:

¹ Groundwater Cleanup Criteria as provided in Chapter 62-777,F.A.C.

² SW-846 8260B, ³ SW-846 8310, ⁴ FL-PRO, ⁵ SW-846 6010B

Bold indicates exceedance of regulatory limits. U = Analyte not detected above laboratory method detection limit

J = analyte detected at an estimated concentration. µg/L = micrograms per liter

**TABLE 2-2
SUMMARY OF 2001 SARA I GROUNDWATER ANALYTICAL RESULTS
UST SITE 22
NAVAL AIR STATION PENSACOLA
PENSACOLA, FLORIDA
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Sample No. Sample Location Collect Date	GCTL ⁽¹⁾ (µg/L)	NASP21MW12GW MW-12 6/24/2000	NASP21MW13GW MW-13 6/24/2000	NASP21MW15GW MW-15 6/24/2000	NASP21MW16GW MW-16 6/24/2000	NASP21MW17GW MW-17 6/24/2000
Analyte (CAS #)						
<u>Volatile</u> ⁽²⁾ (ug/L)						
1,1-Dichloroethene (75-35-4)	7	1 U	1 U	1 U	1 U	1 U
Cis-1,2-Dichloroethene (156-59-2)	70					
Ethylbenzene (100-41-4)	30	1 U	1.8	1 U	1 U	1 U
Xylenes (1330-20-7)	20	3 U	3 U	3 U	3 U	3 U
<u>Polycyclic Aromatic Hydrocarbons</u> ⁽³⁾ (ug/L)						
1-Methylnaphthalene (90-12-0)	20	2 U	3.7	2.2 U	2.2 U	2 U
2-Methylnaphthalene (91-57-6)	20	2 U	2.7	2.2 U	2.2 U	2 U
Naphthalene (91-20-3)	20	2 U	2.2 U	2.2 U	2.2 U	2 U
Total Recoverable Petroleum Hydrocarbons ⁽⁴⁾ (µg/L)						
	5,000	0.25 U	3,490	0.25 U	0.28 U	0.25 U
<u>Metals</u> ⁽⁵⁾ (ug/L)						
Lead (7439-92-1)	15	31.8	25.6	17.8	14.1	12.3

Notes:

¹ Groundwater Cleanup Criteria as provided in Chapter 62-777, F.A.C.

² SW-846 8260B, ³ SW-846 8310, ⁴ FL-PRO, ⁵ SW-846 6010B

Bold indicates exceedance of regulatory limits. U = Analyte not detected above laboratory method detection limit

J = analyte detected at an estimated concentration. µg/L = micrograms per liter

TABLE 2-2
SUMMARY OF 2001 SARA I GROUNDWATER ANALYTICAL RESULTS
UST SITE 22
NAVAL AIR STATION PENSACOLA
PENSACOLA, FLORIDA
PAGE 4 OF 5

Sample No. Sample Location Collect Date	GCTL ⁽¹⁾ (µg/L)	NASP21MW18GW MW-18 6/26/2000	NASP21MW19GW MW-19 6/25/2000	NASP21MW21GW MW-21 6/25/2000	NASP21MW22GW MW-22 6/25/2000	NASP21MW23GW MW-23 6/25/2000
Analyte (CAS #)						
<u>Volatile</u> ⁽²⁾ (µg/L)						
1,1-Dichloroethene (75-35-4)	7	1 U	1 U	1 U	1 U	1 U
Cis-1,2-Dichloroethene (156-59-2)	70	1 U	1 U	1 U	1 U	1 U
Ethylbenzene (100-41-4)	30	1 U	2.1	1 U	0.8 J	1 U
Xylenes (1330-20-7)	20	3 U	3 U	3 U	2.2 J	3 U
<u>Polycyclic Aromatic Hydrocarbons</u> ⁽³⁾ (µg/L)						
1-Methylnaphthalene (90-12-0)	20	2 U	11.8	2 U	4.9	2.2 U
2-Methylnaphthalene (91-57-6)	20	2 U	11.5	2 U	4.6	2.2 U
Naphthalene (91-20-3)	20	2 U	7.8	2 U	4.4	2.2 U
Total Recoverable Petroleum Hydrocarbons ⁽⁴⁾ (µg/L)						
	5,000	0.28 U	7,120	0.25 U	1,270	0.25 U
<u>Metals</u> ⁽⁵⁾ (µg/L)						
Lead (7439-92-1)	15	3.5	18.4	10.6	14.0	88.4

Notes:

¹ Groundwater Cleanup Criteria as provided in Chapter 62-777, F.A.C.

² SW-846 8260B, ³ SW-846 8310, ⁴ FL-PRO, ⁵ SW-846 6010B

Bold indicates exceedance of regulatory limits. U = Analyte not detected above laboratory method detection limit

J = analyte detected at an estimated concentration. µg/L = micrograms per liter

TABLE 2-2
SUMMARY OF 2001 SARA I GROUNDWATER ANALYTICAL RESULTS
UST SITE 22
NAVAL AIR STATION PENSACOLA
PENSACOLA, FLORIDA
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Sample No. Sample Location Collect Date	GCTL ⁽¹⁾ (µg/L)	NASP21MW24GW MW-24 6/25/2000	NASP21MW25GW MW-25 6/25/2000	NASP21MW28GW MW-28 6/24/2000	NASP21MW29GW MW-29 6/25/2000	NASP21MW30GW MW-30 6/24/2000
Analyte (CAS #)						
<u>Volatile</u> ⁽²⁾ (µg/L)						
1,1-Dichloroethene (75-35-4)	7	1 U	1 U	1 U	1 U	1 U
Cis-1,2-Dichloroethene (156-59-2)	70	1 U	1 U	1 U	1 U	1.2
Ethylbenzene (100-41-4)	30	1 U	1 U	1 U	1 U	1 U
Xylenes (1330-20-7)	20	3 U	3 U	3 U	3 U	3 U
<u>Polycyclic Aromatic Hydrocarbons</u> ⁽³⁾ (µg/L)						
1-Methylnaphthalene (90-12-0)	20	2.2 U	2.2 U	2.2 U	2 U	2 U
2-Methylnaphthalene (91-57-6)	20	2.2 U	2.2 U	2.2 U	2 U	2 U
Naphthalene (91-20-3)	20	2.2 U	2.2 U	2.2 U	2 U	2 U
Total Recoverable Petroleum Hydrocarbons ⁽⁴⁾ (µg/L)						
	5,000	0.25 U	0.28 U	0.28 U	0.25 U	0.25 U
<u>Metals</u> ⁽⁵⁾ (µg/L)						
Lead (7439-92-1)	15	8.6	12.6	1.6 U	1.6 U	1.6 U

Notes:

¹ Groundwater Cleanup Criteria as provided in Chapter 62-777,F.A.C.

² SW-846 8260B, ³ SW-846 8310, ⁴ FL-PRO, ⁵ SW-846 6010B

Bold indicates exceedance of regulatory limits. U = Analyte not detected above laboratory method detection limit

J = analyte detected at an estimated concentration. µg/L = micrograms per liter

TABLE 2-3
SUMMARY OF 2001 SARA I SOIL ANALYTICAL RESULTS
UST SITE 22
NAVAL AIR STATION PENSACOLA
PENSACOLA, FLORIDA
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Sample No.	FDEP SCTL	NASP21HA013.5	NASP21HA0205	NASP21HA0302	NASP21HA045.5	NASP21HA055.5
Sample Location		HA01	HA02	HA03	HA04	HA05
Collect Date		5/8/2000	5/8/2000	5/8/2000	5/8/2000	5/8/2000
Sample Depth (bls)	DE1 ¹ /DE2 ² /LE ³	3.5 feet	5 feet	2 feet	5.5 feet	5.5 feet
Analyte (CAS #)	(mg/kg)					
Polycyclic Aromatic Hydrocarbons ⁽⁵⁾ (ug/L)						
Benzo(a)anthracene (56-55-3)	1.4/5.0/3.2	.069 U	0.289	0.069 U	0.072 U	0.069 U
Benzo(a)pyrene (50-32-8)	0.1/0.5/8	.069 U	0.309	0.069 U	0.072 U	0.069 U
Benzo(b)fluoranthene (205-99-2)	1.4/4.8/10	.069 U	0.28	0.069 U	0.072 U	0.069 U
Benzo(g,h,i)perylene (191-24-2)	2,300/41,000/32,000	.069 U	0.185	0.069 U	0.072 U	0.069 U
Benzo(k)fluoranthene (207-08-9)	15/52/25	.069 U	0.162	0.069 U	0.072 U	0.069 U
Chrysene (218-01-9)	140/450/77	.069 U	0.288	0.069 U	0.072 U	0.069 U
Fluoranthene (206-44-0)	2,900/48,000/1,200	0.34 U	0.762	0.34 U	0.36 U	0.34 U
Indeno(1,2,3-cd)pyrene (193-39-5)	1.5/5.3/28	0.69 U	0.246	0.69 U	0.072 U	.069 U
Naphthalene (91-20-3)	40/270/1.7	0.34 U	0.35 U	0.34 U	0.36 U	0.34 U
Phenanthrene (85-01-8)	2,000/30,000/250	0.34 U	0.212 J	0.34 U	0.36 U	0.34 U
Pyrene (129-00-0)	2,200/37,000/880	0.34 U	0.525	0.34 U	0.36 U	0.34 U
1-Methylnaphthalene (90-12-0)	68/470/2.2	0.34 U	0.190 J	0.34 U	0.36 U	0.34 U
2-Methylnaphthalene (91-57-6)	80/560/6.1	0.34 U	0.250 J	0.34 U	0.36 U	0.34 U
Total Recoverable Petroleum Hydrocarbons ⁽⁶⁾ (ug/L)						
	340/2,500/340	20.3	36.6	8.6 U	38.6	8.6 U
Metals ⁴ (mg/kg)						
Aluminum (7429-90-5)	72,000*/NA	1580	2500	106	156	87.3 U
Antimony (7440-36-0)	26/240/5	2.7 U,J	4.3 U	1.2 U	0.4 U	0.4 U
Arsenic (no CAS)	0.8/3.7/29	0.55 U	1.8 U	0.58 U	0.57 U	0.58 U
Barium (7440-39-3)	5,200/87,000/1,600	5.5	82.0	2.8	2.8	2.5
Cadmium (7440-43-9)	75**/1,300/8.0	0.3	0.57	0.06 U	0.05 U	0.06 U
Calcium (no CAS)	N/A	1800	1360	974	253	134
Chromium (18540-88-2)	210/420/38	3.9	7.6	0.55 U	0.54 U	0.6 U
Cobalt (7440-48-4)	4,700/110,000/NA	0.15 U	0.99 U	0.13 U	0.13 U	0.13 U
Copper (7440-50-8)	2,900/76,000/NA	4.8	187	3.2	2.5	2.5
Iron (7439-89-6)	23,000/480,000/NA	855	4610	145	109	71.4
Lead (7439-92-1)	400/920/NA	65.5	664	1.4 U	4.1 U	1.6 U
Magnesium (no CAS)	N/A	106	183	26.9 U	12.1 U	10.1 U
Manganese (7439-96-5)	1,600/22,000/NA	47.8	157	1.9 U	2.0 U	1.2 U
Mercury (7439-97-6)	3.4/26/2.1	0.01 U	0.26	0.01 U	0.01 U	0.01 U
Nickel (7440-02-0)	1,500/28,000/130	1.0 U	10.2	0.22 U	0.02 U	0.24 U
Selenium (7782-49-2)	390/10,000/5	0.32 U	1.5	0.34 U	0.34 U	0.35 U
Silver (7440-22-4)	390/9100/17	0.15 U	0.17 U	0.16 U	0.16 U	0.16 U
Sodium (no CAS)	N/A	200	277	204	203	203
Vanadium (7440-62-2)	510/7400/980	2.4 U	4.4	0.25 U	0.30 U	0.12 U
Zinc (7440-66-6)	23,000/560,000/6,000	14.3	415	6.9	9.5	6.2

Notes:

¹ DE1= Direct Exposure limit for residential area from Chapter 62-777, F.A.C.² DE2= Direct Exposure limit for industrial area from Chapter 62-777, F.A.C.³ LE= Leachability for groundwater limit from Chapter 62-777, F.A.C.⁴ SW-846 6010B and 7470A⁵ 8270⁶ FL-PRO

* Contaminant is not a health concern for this default exposure scenario.

** Direct exposure value based on acute toxicity considerations.

J = analyte detected at an estimated concentration. U = Analyte not detected above laboratory method detection limit.

Bold indicates exceedance of regulatory limits.

NA indicates no criteria available for this parameter

TABLE 2-3
SUMMARY OF 2001 SARA I SOIL ANALYTICAL RESULTS
UST SITE 22
NAVAL AIR STATION PENSACOLA
PENSACOLA, FLORIDA
PAGE 2 OF 3

Sample No.	FDEP SCTL	NASP21HA0606	NASP21HA0704	NASP21HA0801	NASP21HA092.5	NASP21HA1002	NASP21HA1105
Sample Location		HA06	HA07	HA08	HA09	HA10	HA11
Collect Date		5/8/2000	5/8/2000	5/8/2000	5/8/2000	5/9/2000	5/9/2000
Sample Depth (bls)	DE1 ¹ /DE2 ² /LE ³	6 feet	4 feet	1 foot	2.5 feet	2 feet	5 feet
Analyte (CAS #)	(mg/kg)						
Polycyclic Aromatic Hydrocarbons ⁽⁶⁾ (ug/L)							
Benzo(a)anthracene (56-55-3)	1.4/5.0/3.2	0.28 U	0.072 U	0.073 U	0.31 U	0.069 U	0.069 U
Benzo(a)pyrene (50-32-8)	0.1/0.5/8	.071 U	0.072 U	0.073 U	0.077 U	0.069 U	0.069 U
Benzo(b)fluoranthene (205-99-2)	1.4/4.8/10	.071 U	0.072 U	0.073 U	0.077 U	0.069 U	0.069 U
Benzo(g,h,i)perylene (191-24-2)	2,300/41,000/32,000	.071 U	0.072 U	0.073 U	0.077 U	0.069 U	0.069 U
Benzo(k)fluoranthene (207-08-9)	15/52/25	.071 U	0.072 U	0.073 U	0.077 U	0.069 U	0.069 U
Chrysene (218-01-9)	140/450/77	0.28 U	0.072 U	0.073 U	0.31 U	0.069 U	0.069 U
Fluoranthene (206-44-0)	2,900/48,000/1,200	1.4 U	0.36 U	0.37 U	1.5 U	0.34 U	0.34 U
Indeno(1,2,3-cd)pyrene (193-39-5)	1.5/5.3/28	.071 U	0.072 U	0.073 U	0.77 U	0.069 U	0.069 U
Naphthalene (91-20-3)	40/270/1.7	0.36 U	0.36 U	0.37 U	0.38 U	0.34 U	0.34 U
Phenanthrene (85-01-8)	2,000/30,000/250	1.4 U	0.36 U	0.37 U	1.5 U	0.34 U	0.34 U
Pyrene (129-00-0)	2,200/37,000/880	1.4 U	0.36 U	0.37 U	1.5 U	0.34 U	0.34 U
1-Methylnaphthalene (90-12-0)	68/470/2.2	0.36 U	0.36 U	0.37 U	0.38 U	0.34 U	0.34 U
2-Methylnaphthalene (91-57-6)	80/560/6.1	0.36 U	0.36 U	0.37 U	0.38 U	0.34 U	0.34 U
Total Recoverable Petroleum Hydrocarbons ⁽⁶⁾ (ug/L)							
	340/2,500/340	8,500	620	808	9,820	8.6 U	8.09 J
Metals ⁴ (mg/kg)							
Aluminum (7429-90-5)	72,000*/NA	53.7 U	59.3 U	763	61.9 U	76.1	511
Antimony (7440-36-0)	26/240/5	0.42 U	0.42 U	0.39 U	0.39 U	0.24 U	0.23 U
Arsenic (no CAS)	0.8/3.7/29	0.6 U	0.61 U	0.57 U	0.57 U	0.35 U	0.34 U
Barium (7440-39-3)	5,200/87,000/1,600	2.5	2.4	3.8	2.5	1.9	2.5
Cadmium (7440-43-9)	75**/1,300/8.0	0.06 U	0.06 U	0.05 U	0.05 U	0.04 U	0.06 U
Calcium (no CAS)	N/A	145	121	988	183	47.6 U	143
Chromium (18540-88-2)	210/420/38	0.56 U	0.47 U	1.7 U	0.49 U	0.44 U	0.74 U
Cobalt (7440-48-4)	4,700/110,000/NA	0.14 U	0.14 U	0.13 U	0.13 U	0.08 U	0.09 U
Copper (7440-50-8)	2,900/76,000/NA	2.9	2.5	3.3	2.9	1.7	2.7
Iron (7439-89-6)	23,000/480,000/NA	39	41.0	384	32.2	62.7 U	308 U
Lead (7439-92-1)	400/920/NA	1.2 U	6.5 U	27.0	16.9	4.4 U	30.7
Magnesium (no CAS)	N/A	11.7 U	7.7 U	41.6 U	8.7 U	7.1 U	14.1 U
Manganese (7439-96-5)	1,600/22,000/NA	0.94 U	0.79 U	3.2	0.78 U	1.0 U	1.8 U
Mercury (7439-97-6)	3.4/26/2.1	0.01 U	0.01 U	0.01	0.01	0.03 U	0.05 U
Nickel (7440-02-0)	1,500/28,000/130	0.64 U	0.23 U	0.37 U	0.22 U	0.22 U	0.34 U
Selenium (7782-49-2)	390/10,000/5	0.45 U	0.39 U	0.44 U	0.34 U	0.21 U	0.25 U
Silver (7440-22-4)	390/9100/17	0.17 U	0.17 U	1.2 U	0.16 U	0.10 U	0.09 U
Sodium (no CAS)	N/A	174	185	199	193	99.8	102
Vanadium (7440-62-2)	510/7400/980	0.13 U	0.17 U	1.5 U	0.12 U	1.13 U	0.74
Zinc (7440-66-6)	23,000/560,000/6,000	6.0	7.4	20.9	8.3	6.6	17.0

Notes:

¹ DE1= Direct Exposure limit for residential area from Chapter 62-777, F.A.C.² DE2= Direct Exposure limit for industrial area from Chapter 62-777, F.A.C.³ LE= Leachability for groundwater limit from Chapter 62-777, F.A.C.⁴ SW-846 6010B and 7470A⁵ 8270⁶ FL-PRO

* Contaminant is not a health concern for this default exposure scenario.

** Direct exposure value based on acute toxicity considerations.

J = analyte detected at an estimated concentration.

Bold indicates exceedance of regulatory limits.

NA indicates no criteria available for this parameter

TABLE 2-3
SUMMARY OF 2001 SARA I SOIL ANALYTICAL RESULTS
UST SITE 22
NAVAL AIR STATION PENSACOLA
PENSACOLA, FLORIDA
PAGE 3 OF 3

Sample No.	FDEP SCTL	NASP21HA1205	NASP21HA1302	NASP21HA1405	NASP21HA154.5	NASP21HAD01
Sample Location		HA12	HA13	HA14	HA15	154.5 Duplicate
Collect Date		5/9/2000	5/9/2000	5/9/2000	5/10/2000	5/10/2000
Sample Depth (bls)	DE1¹/DE2²/LE³	5 feet	2 feet	5 feet	4.5 feet	4.5 feet
Analyte (CAS #)	(mg/kg)					
Polycyclic Aromatic Hydrocarbons ⁽⁵⁾ (ug/L)						
Benzo(a)anthracene (56-55-3)	1.4/5.0/3.2	0.069 U	0.069 U	0.085 U	0.069 U	0.069 U
Benzo(a)pyrene (50-32-8)	0.1/0.5/8	0.069 U	0.069 U	0.085 U	0.069 U	0.069 U
Benzo(b)fluoranthene (205-99-2)	1.4/4.8/10	0.069 U	0.069 U	0.085 U	0.069 U	0.069 U
Benzo(g,h,i)perylene (191-24-2)	2,300/41,000/32,000	0.069 U	0.069 U	0.085 U	0.069 U	0.069 U
Benzo(k)fluoranthene (207-08-9)	15/52/25	0.069 U	0.069 U	0.085 U	0.069 U	0.069 U
Chrysene (218-01-9)	140/450/77	0.069 U	0.069 U	0.085 U	0.069 U	0.069 U
Fluoranthene (206-44-0)	2,900/48,000/1,200	0.34 U	0.35 U	0.42 U	0.34 U	0.34 U
Indeno(1,2,3-cd)pyrene (193-39-5)	1.5/5.3/28	0.069 U	0.069 U	0.085 U	0.069 U	0.069 U
Naphthalene (91-20-3)	40/270/1.7	0.34 U	0.35 U	0.42 U	0.34 U	0.34 U
Phenanthrene (85-01-8)	2,000/30,000/250	0.34 U	0.35 U	0.42 U	0.34 U	0.34 U
Pyrene (129-00-0)	2,200/37,000/880	0.34 U	0.35 U	0.42 U	0.34 U	0.34 U
1-Methylnaphthalene (90-12-0)	68/470/2.2	0.34 U	0.35 U	0.42 U	0.34 U	0.34 U
2-Methylnaphthalene (91-57-6)	80/560/6.1	0.34 U	0.35 U	0.42 U	0.34 U	0.34 U
Total Recoverable Petroleum Hydrocarbons ⁽⁶⁾ (ug/L)						
	340/2,500/340	8.6 U	14.1	10 U	12.1	10.7
Metals ⁴ (mg/kg)						
Aluminum (7429-90-5)	72,000*/NA	20.7 U	293	150	154	270
Antimony (7440-36-0)	26/240/5	0.24 U	0.24 U	0.29 U	0.25 U	0.24 U
Arsenic (no CAS)	0.8/3.7/29	0.35 U	0.34 U	0.42 U	0.36 U	0.34 U
Barium (7440-39-3)	5,200/87,000/1,600	1.8	28.7	2.5	2.1	3.0
Cadmium (7440-43-9)	75**/1,300/8.0	0.03 U	0.10 U	0.05 U	0.03 U	0.03 U
Calcium (no CAS)	N/A	40.5 U	137	71.5 U	53.1	67.3
Chromium (18540-88-2)	210/420/38	0.20 U	7.2	0.44 U	0.38 U	1.2 U
Cobalt (7440-48-4)	4,700/110,000/NA	0.08 U	0.16 U	0.10U	0.08 U	0.08 U
Copper (7440-50-8)	2,900/76,000/NA	1.4 U	4.6	2.5	1.5	1.2
Iron (7439-89-6)	23,000/480,000/NA	12.2 U	697	34.4 U	87.4	190
Lead (7439-92-1)	400/920/NA	2.7 U	146	17.5	3.3	5.8
Magnesium (no CAS)	N/A	4.0 U	29.5 U	8.1 U	10.8	17.5
Manganese (7439-96-5)	1,600/22,000/NA	0.54 U	9.5	0.70 U	1.2 U	3.4
Mercury (7439-97-6)	3.4/26/2.1	0.02 U	0.09 U	0.03 U	0.03 U	0.04 U
Nickel (7440-02-0)	1,500/28,000/130	0.16 U	0.57 U	0.35 U	0.17 U	1.3 U
Selenium (7782-49-2)	390/10,000/5	0.21 U	79.5 U	0.25 U	0.21 U	0.20 U
Silver (7440-22-4)	390/9100/17	0.10 U	0.10 U	0.12 U	0.10 U	0.09 U
Sodium (no CAS)	N/A	97.9	107	136	104	104
Vanadium (7440-62-2)	510/7400/980	0.07 U	1.4	0.13 U	0.21 U	0.49
Zinc (7440-66-6)	23,000/560,000/6,000	4.8 U	48.0	9.6	5.7	8.5

Notes:

¹ DE1= Direct Exposure limit for residential area from Chapter 62-777, F.A.C.² DE2= Direct Exposure limit for industrial area from Chapter 62-777, F.A.C.³ LE= Leachability for groundwater limit from Chapter 62-777, F.A.C.⁴ SW-846 6010B and 7470A⁵ 8270⁶ FL-PRO

* Contaminant is not a health concern for this default exposure scenario.

** Direct exposure value based on acute toxicity considerations.

J = analyte detected at an estimated concentration.

Bold indicates exceedance of regulatory limits.

NA indicates no criteria available for this parameter

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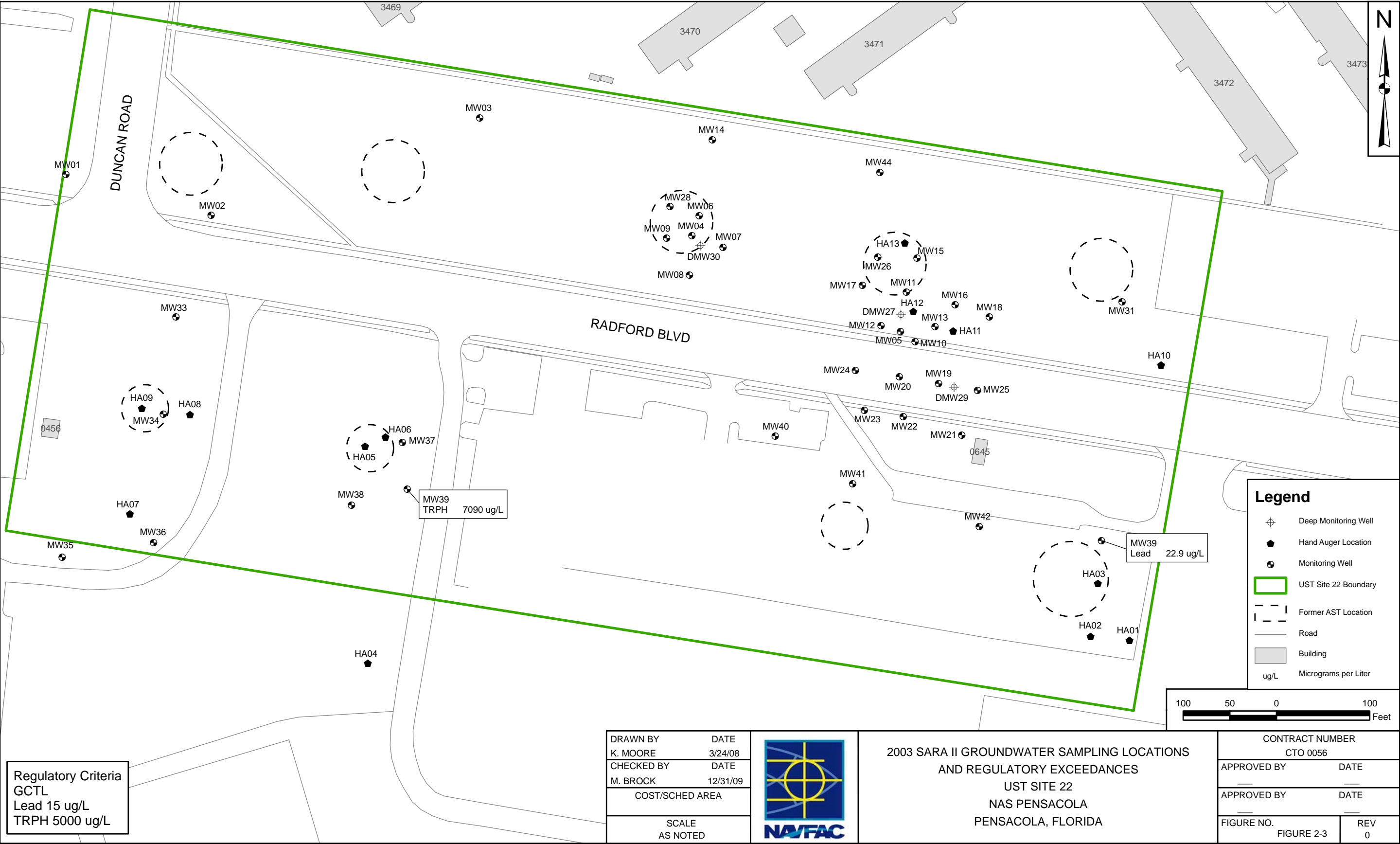


TABLE 2-4
SUMMARY OF 2003 SARA II GROUNDWATER ANALYTICAL RESULTS
UST SITE 22
NAVAL AIR STATION PENSACOLA
PENSACOLA, FLORIDA

Monitoring Well ID	Sample ID	Sample Date	Lead ¹	TRPH ²
			GCTL (µg/L)	GCTL (µg/L)
			15	5000
MW33	PEN-21-MW33-01	2/11/03	NA	170 U
MW34	PEN-21-MW34-01	2/11/03	NA	285
MW35	PEN-21-MW35-01	2/11/03	NA	2,710 / 2,680
MW36	PEN-21-MW36-01	2/11/03	NA	1,900
MW37	PEN-21-MW37-01	2/11/03	NA	170 U
MW38	PEN-21-MW38-01	2/11/03	NA	894
MW39	PEN-21-MW39-01	2/11/03	NA	7,090
MW40	PEN-21-MW40-01	2/11/03	5.1	NA
MW41	PEN-21-MW41-01	2/11/03	6.5	NA
MW42	PEN-21-MW42-01	2/11/03	3.3 U / 4.1 U	NA
MW43	PEN-21-MW43-01	2/11/03	22.9	NA
MW44	PEN-21-MW44-01	2/11/03	5.0	NA

Notes:

¹SW846-6010B ²FL-PRO

GCTL = Groundwater Cleanup Target Level established in Chapter 62-770, FAC

U = analyte not detected above laboratory method detection limit.

NA = Location not analyzed for this parameter

Concentrations in bold exceed the GCTL.

Two values in one square indicate duplicate sample

3.0 SITE ASSESSMENT METHODOLOGY

Site 22 is a designated UST site and this SARA III has been completed in accordance with the FDEP Petroleum Contaminated Site Cleanup Criteria Chapter 62-770 of the F.A.C. under CLEAN IV Contract N62467-04-D-0055. All field activities including: soil sampling, monitoring well installation, and groundwater sampling were conducted in accordance with FDEPs Standard Operating Procedures (SOPs) for Field Activities (FDEP, 2008). Whenever the FDEP SOPs did not address a specific task, TtNUS deferred to the TtNUS Corporate SOPs (TtNUS, 2007).

The site assessment methodologies used during this investigation are discussed below. The results of the investigation are presented in Section 4.0. To alleviate concerns of base personnel and the FDEP, an archeologist was on site throughout the field event to oversee intrusive activities in culturally and historically sensitive areas. These concerns were raised during the scoping meetings, and therefore, the archeologist on site observed the drilling and hand auger activities and inspected the soil samples to reassure that no historically or culturally sensitive area was disturbed.

Due to the number of samples taken through the years and the different results gathered, a triad approach was used in planning and implementing this investigation. Strategic planning was used to target areas where high detections of contaminants or previous information have gaps or lack of proper delineation of potential hot spot or plumes. Dynamic work strategies were implemented using the DPT sampling techniques to have a rapid means of collecting soil and groundwater samples with the assistance of field experience and technical expertise. Real-time measurement technologies were used in cooperation with an on-site laboratory that had a 24 hour turnaround for groundwater and soil samples.

Soil and groundwater samples were collected at UST Site 22 (IR Site 21) as a part of the 2007 and 2009 investigation. Soil borings were advanced by hand auger and DPT. Field screening observations including OVA screening visual inspection were used to determine which samples were submitted to an on-site mobile laboratory. One or more soil samples per soil boring were submitted to the mobile laboratory and the analytical results were used to determine which samples would be submitted for off-site confirmation analysis. TtNUS staff also compared the mobile laboratory analytical results to the SCTLs and GCTLs in Chapter 62-777, F.A.C. and Natural Attenuation Default Concentration (NADC) in Chapter 62-777, F.A.C.

Groundwater samples were also submitted to a fixed-base laboratory for a quick turn around analysis for lead content. This information provided the necessary data to determine the sampling progression.

3.1 SOIL SAMPLING PLAN

The subsurface soil samples were collected at UST Site 22 to further delineate the extent of soil contamination. Previous investigations and comments received from FDEP determined the soil sample collection should be completed in the two shaded areas shown on Figure 3-1. Thirty-one soil borings were advanced to a depth of 10 feet below land surface (bls). Visual observations and data from the on-site mobile laboratory determined the sampling progressions. Field observations, such as staining of soil and/or odor, are important factors in choosing the samples sent to the on-site laboratory since many of the soil contaminants detected during the initial assessment do not readily volatilize. The soil samples were collected using hand augers and stainless steel bowls and spoons from discrete intervals depending on field screening results. Surface soil samples (0 to 6 inches bls) were not collected because most of the surface material was removed during the cleanup activities following Hurricane Ivan. Additionally, beach sand and fill material were brought from outside the base for a naturalized landscaping project. Efforts were made in the field to sample below this imported, non-representative material.

The soil sampling depth was limited to 10 feet bls due to the presence of groundwater and proximity to the Pensacola Bay. Previously groundwater measurements indicated the groundwater potentiometric surface to be present approximately 1 to 3 feet bls (see Figures 4-1, 4-2 and 4-3). Soil samples were collected from above the saturated zone of the water table. The soil samples were collected in accordance with FDEP SOPs Field Sampling (FS) 3200, Subsurface Soil Sampling (FDEP, 2008) and the sampling methodology was compliant with FDEP's Global Risk Based Corrective Action (RBCA) Rule 62-780.

The soil samples collected at UST Site 22 were analyzed on site by a mobile laboratory for benzene, ethylbenzene, toluene, xylenes (BTEX) and naphthalene. The data obtained from the on-site mobile laboratory was used to determine soil boring progression as well as placement for new monitoring wells. Based on low positive detections of BTEX and naphthalene, the decision was reached to decrease the amount of DPT soil samples.

Five of the soil boring samples were sent to an off-site laboratory for confirmation analysis for VOCs, MTBE, PAHs, 1- and 2-methylnaphthalene, and TRPH. The laboratory analytical methods used are specified in Table 3-1. No soil samples were collected during the supplemental sampling event conducted in January 2009.

TABLE 3-1
2007 SARA III DPT SOIL ANALYTICAL SUMMARY
UST SITE 22
NAVAL AIR STATION PENSACOLA
PENSACOLA, FLORIDA

Analysis	Mobile Laboratory	Off-site Laboratory
	No. of Samples Analyzed	No. of Samples Analyzed
BTEX (SW-846 5035/8260B)	31	5
PAH (SW-846 8270C SIM)	31	5
TRPH (FDEP FL-PRO)	0	5

BTEX = Benzene, toluene, ethylbenzene, xylene
PAH = Polycyclic Aromatic Hydrocarbons
TRPH = Total recoverable petroleum hydrocarbons

SW = Solid waste
SIM = Selected ion monitor
FL-PRO = Florida Petroleum Range Organics

3.2 DPT GROUNDWATER SAMPLING PLAN

Concurrent with the soil sampling investigation, TtNUS collected groundwater samples from 42 soil boring locations using DPT. DPT locations were determined by field screening activities coincidental with the soil sampling. Thirty eight groundwater samples were taken immediately below the water table, generally between 10 and 17 feet bls. Four groundwater samples were taken from 19 to 30 feet bls. The 42 DPT samples were submitted to a National Environmental Laboratory Accreditation Certification (NELAC) certified on-site mobile laboratory for analysis of BTEX and naphthalene. DPT groundwater samples were collected using DPT hole punch groundwater sampling. Groundwater samples were collected using a peristaltic pump until turbidity was below 20 nephelometric turbidity units (NTUs) or until it was stabilized.

In addition to the mobile laboratory analysis, 11 samples were sent to an off-site laboratory for confirmation analysis. Although all samples were not analyzed for all the parameters, the confirmation analysis included VOCs, MTBE, PAHs plus 1- and 2-methylnaphthalene, TRPH, and lead. The laboratory analytical methods are specified in Table 3-2.

TABLE 3-2
2007 SARA III DPT GROUNDWATER ANALYTICAL SUMMARY
UST SITE 22
NAVAL AIR STATION PENSACOLA
PENSACOLA, FLORIDA

Analysis	Mobile Laboratory	Off-site Laboratory
	No. of Samples Analyzed	No. of Samples Analyzed
BTEX (SW-846 5030B/8260B)	42	11
PAH (SW-846 8270C SIM)	42	5
Lead (SW-846 6010B)	7	3

BTEX = Benzene, toluene, ethylbenzene, xylene
PAH = Polycyclic Aromatic Hydrocarbons

SW = Solid waste
SIM = Selected ion monitor

3.3 MICRO WELL AND MONITORING WELL INSTALLATION PLAN

Due to hurricane reconstruction activities, 16 previously installed monitoring wells (MW01, MW03, MW14, MW26, MW30, MW31, MW39, MW40, MW45, MW46, MW47, MW50, MW54, MW55, MW56 and MW57) could not be located. However, only three of the monitoring wells including: MW46R, MW54R and MW31R were replaced based on their strategic locations. In addition to the three replacement wells, TtNUS installed 16 additional permanent micro type monitoring wells. The locations of these wells were determined in the field, in part based on the DPT groundwater sampling results. All monitoring wells were installed and constructed in accordance with Navy and FDEP guidance documents. No monitoring wells were installed during the January 2009 field event.

3.4 GROUNDWATER SAMPLING

Prior to obtaining groundwater samples, water levels and total well depths were measured for all available wells for groundwater piezometric determination. The wells were then purged using a peristaltic pump and a low-flow quiescent purging technique. Purging completion was conducted in accordance with FDEP SOP FS 2212, Well Purging Techniques (FDEP, 2008).

In April and May of 2007, groundwater samples were collected from the 16 new wells, 23 existing monitoring wells, and 3 replacement wells. The monitoring and micro wells were sampled for target compound list (TCL) VOCs, PAHs, TRPH, and lead. However, all the groundwater samples were not analyzed for all the parameters. To determine the appropriate analyses for each groundwater sample collected, information from previous analytical data and site observations were considered. Groundwater

samples were collected in accordance with FDEP SOP FS 2220, Groundwater Sampling Techniques (FDEP, 2008). Laboratory methods and the number of samples are presented in Table 3-3.

TABLE 3-3
2007 SARA III GROUNDWATER SAMPLE ANALYTICAL SUMMARY
UST SITE 22
NAVAL AIR STATION PENSACOLA
PENSACOLA, FLORIDA

Analysis	Off-site Laboratory
	No. of Samples Analyzed
BTEX (SW-846 5030B/8260B)	17
PAH (SW-846 8270C SIM)	17
Lead (SW-846 6010B)	32
TRPH (FDEP FL-PRO)	17

BTEX = Benzene, toluene, ethylbenzene, xylene

PAH = Polycyclic aromatic hydrocarbons

TRPH = Total recoverable petroleum hydrocarbons

SW = Solid waste

SIM = selected ion monitor

FL-PRO =Florida Petroleum Range Organics

During the January 2009 field event, groundwater samples were collected from 17 permanent monitoring wells. Specific location and analysis information is presented in Table 3-4. All monitoring wells were sampled for lead, manganese, and zinc, one well (MW73) was sampled for VOCs as well. Groundwater samples were collected in accordance with FDEP SOP FS 2220, Groundwater Sampling Techniques (FDEP, 2008).

TABLE 3-4
2009 SARA III GROUNDWATER SAMPLE ANALYTICAL SUMMARY
UST SITE 22
NAVAL AIR STATION PENSACOLA
PENSACOLA, FLORIDA

Analysis	Off-site Laboratory	
	Location Parameter Analysis	No. of Samples Analyzed
VOCs (SW-846 /8260B)	MW73	1
Lead (SW-846 6010B)	MW01,MW04, MW08, MW10, MW11, MW21,	17
Manganese (SW-846 6010B)	MW28, MW34, MW36, MW39, MW43, MW44,	17
Zinc (SW-846 6010B)	MW46R, MW48, MW61, MW69, MW73	17

VOCs=Volatile organic compounds SW = Solid waste

3.5 SAMPLE HANDLING

Sample handling includes the selection of sample containers, preservatives, allowable holding times, sample packaging, shipping and appropriate chain of custody procedures. Samples were packaged and shipped in general accordance with FDEP SOP 001/01 FS 1000, General Sampling (FDEP, 2008) and applicable sections of FS 2200, Groundwater Sampling and FS 3000, Soil Sampling.

Sampling activities were documented in a site-specific field logbook, and samples were transmitted under chain-of-custody protocols to the laboratory. Custody of samples was maintained and documented at all times. Chain-of-custody began with the collection of the samples in the field. FDEP SOP FS 1000 (FS 1009, Sample Documentation and Evidence Custody) and TtNUS SOP SA-6.3 provide a description of the chain-of-custody procedures followed during sampling activities. TtNUS SOP SA-6.3 may be reviewed upon request. A copy of the chain-of-custody documents and field notes are included in Appendix A.

3.6 QUALITY CONTROL SAMPLES

Groundwater and soil sampling activities were performed in accordance with the procedures prescribed in DEP-SOP-001/01. Groundwater and soil samples were collected in containers provided by the laboratory. Quality control samples (e.g. matrix spike duplicate, rinsate blanks and trip blanks) were collected and submitted to the laboratory.

Pre- and post-equipment rinsate blanks were collected during the soil and groundwater sampling events in accordance to FDEP SOP 001/01 FQ 1000: Field Quality Control Requirements (FDEP, 2008). Two quality control samples were collected during the Supplemental sampling event conducted in January. One trip blank sample, designated "Trip Blank" accompanied the cooler containing VOC samples. One duplicate sample was collected from monitoring well MW73 and was designated MW73-0109-D.

3.7 EQUIPMENT CALIBRATION

Field instruments, including the YSI 556 MPS Water Quality Meter and the Lamotte 2020e Turbidimeter, were calibrated daily according to FDEP SOPs Field Testing 1000: General Field Testing and Measurement, and manufacturer's specifications (FDEP, 2008). Equipment calibration was documented on an Equipment Calibration Log. A copy of the completed Equipment Calibration Log is included in Appendix A.

3.8 SOIL ASSESSMENT

The soil screening investigation conducted during the 2007 portion of the SARA III was limited to lithologic descriptions of drilling cores recorded during monitoring well installation. During drilling

operations continuous soil cores were recovered and soil samples from the cores were viewed and described by the on-site geologist. No soils were analyzed during the January 2009 field event.

3.8.1 Soil Lithologic Descriptions

Soil borings for the monitoring wells were advanced with a DPT rig. The soil borings were advanced continuously from ground surface to the water table at each soil boring location. The site geologist recorded the soil properties, including texture, color, and soil moisture for each soil boring and noted staining or odors. Soil boring logs are provided in Appendix A.

3.8.2 New Monitoring Well Locations

While conducting field activities during the 2007 field events, 16 shallow monitoring wells (MW61 through MW76) and 3 replacement wells (MW31R, MW46R and MW54R) were installed at the site. The wells were surveyed, and the top of casing for each well was recorded using the mean sea level as the datum. Data obtained during previous investigations, recommendations from FDEP, and current data obtained in the field, were evaluated to determine the locations of these new wells. The proposed location of the new wells, as shown on Figure 3-1, was presented in the Sampling and Analysis Plan (TtNUS, 2006). No monitoring wells have been installed since the 2007 field events.

3.8.3 Monitoring Well Installation

The micro monitoring wells were installed using a DPT rig and suitable tools. The initial 4 feet of each temporary well boring was advanced with a hand auger of suitable diameter in order to clear underground utilities that were not identified as part the utility clearance activities and to address concerns of cultural and sensitive historical areas. Each micro monitoring well boring was advanced to total depth using DPT casing. Total depth of each well boring was based on the depth to groundwater at the well location. The wells were installed to bracket the water table, which was anticipated to occur at approximately 8 to 10 feet bls.

The newly installed wells were constructed of new, plastic-wrapped well materials. Each well was constructed with 7/8 inch inside diameter (ID) schedule 40 polyvinyl chloride (PVC) well screen and riser. The well screens were 10 feet in length with factory machined 0.010 inch slots. Each well screen was pre-packed with 20/30-grade silica sand. Excess riser was cut to fit within a flush mount 8 inch diameter protective manhole cover. A surface seal of sodium bentonite pellets and fine sand was emplaced above the well screen to prevent surface water from entering the well screen and each boring was grouted to land surface.

3.8.4 Monitoring Well Development

Each monitoring well was developed with a peristaltic pump and new surgical grade Teflon® lined disposable tubing. Each well was considered developed once the pH, temperature, and conductivity of the extracted groundwater stabilized and the groundwater was visibly clear (20 NTU or less). Development water from the site was stored in labeled 55-gallon drums for subsequent disposal.

3.8.5 Monitoring Well Sampling

Groundwater samples were collected using low-flow purging and sampling with a peristaltic pump and Teflon® tubing dedicated to each well. All groundwater samples were collected using the procedures specified in FDEP SOP FS 2200, Groundwater Sampling (FDEP, 2008).

Prior to groundwater sample collection, the monitoring wells were purged to remove stagnant water in the well casing. Both purging and sampling operations were conducted at a flow rate that resulted in a groundwater turbidity measurement of 20 NTU or less if possible in accordance with FDEP SOP FS 2200, Groundwater Sampling (FDEP, 2008) and the field parameter including pH, conductivity, and temperature were stabilized.

For non-VOC laboratory analysis, groundwater samples were collected using the peristaltic pump sterile Teflon and medical grade tubing. The sample aliquot for VOC analysis were collected last by slowly pulling the Teflon® tubing out of the well to minimize agitation of the water in the monitoring well and then transferring the contents of the tubing to a VOC vial. After collection, all samples were placed in a cooler with ice and shipped under chain-of-custody protocol to the fixed-base laboratory for analysis.

3.9 AQUIFER CHARACTERIZATION

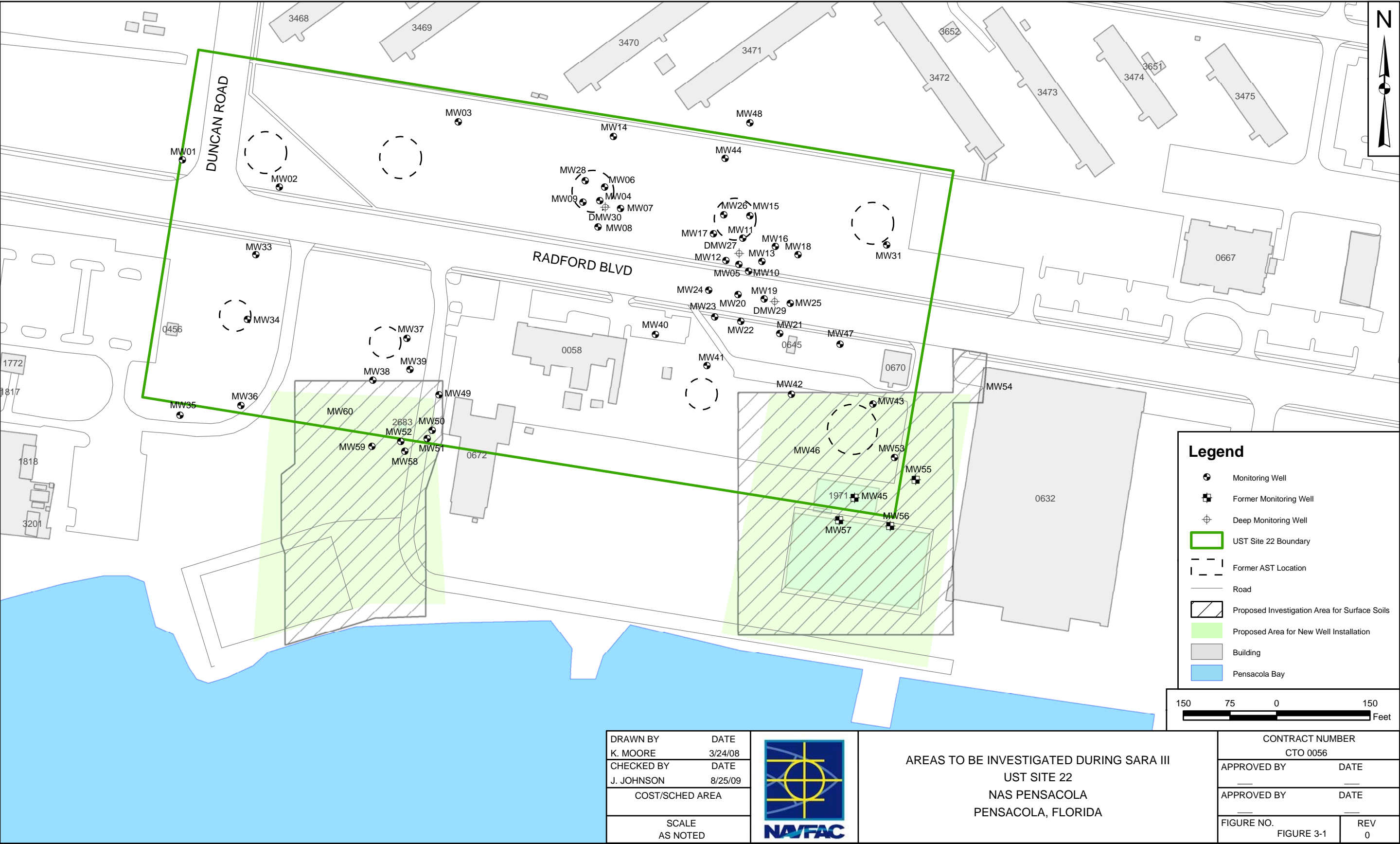
Data were collected during the additional site investigation to evaluate the presence of contaminants and direction of groundwater movement. Groundwater elevations were determined from static water level (SWL) measurements and a well top-of-casing elevation survey, conducted by professional surveyors.

3.9.1 Static Water Level Measurements

A round of depth-to-groundwater measurements was made in all site monitoring wells available during May 2007 and January 2009. Groundwater elevations were calculated from the top of casing survey elevations and the SWL measurements. The groundwater isocontour maps are discussed in Section 4.3.1 and the recorded measurements are presented in Appendix A.

When the original wells were installed at Site 22, an arbitrary elevation was assigned to a utility location that was used as a benchmark for the survey. Subsequent wells were also surveyed using the arbitrary elevation. Casing elevations for wells installed during the 2007 event were surveyed in reference to North American Vertical Datum 1988 (NAVD). The elevation of preexisting monitoring well MW59 was also surveyed in reference to NAVD, and the resultant elevation differential was used to correct the casing elevations of the remaining pre-existing monitoring wells relative to NAVD.

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4.0 SITE ASSESSMENT RESULTS

4.1 SOIL ASSESSMENT RESULTS

Interpretation of site lithology and stratigraphy was based on visual examination of soil cores collected from borings advanced during monitoring well installations. The recorded lithology was consistent with previous descriptions at the site (TtNUS, 2003). As part of recovery efforts following Hurricane Ivan, white fine grained sand was used as landscaping fill and occupies most of the surface soil. Underlying the fill sand, typical lithology consists of inter-bedded, various colored, silty clayey sands, silty sands, clayey silty sands, and silty sand.

The surficial geology of the area consists of Pleistocene marine deposits made up of light brown to tan, fine quartz sand with associated stringers and lenses of gravel and clay. Underlying these deposits, increasing with age, are the Citronelle Formation, the Miocene Coarse Clastics, the Pensacola Clay, the Tampa Formation, the Chickasawhay Limestone, the Bucatunna Clay member of the Byram Formation, the Ocala Group, the Lisbon equivalent, the Tallahatta Formation, and the Hatchetigbee Formation. The Pleistocene deposits and Citronelle formation are often impossible to differentiate, and together range in thickness from approximately 30 feet to 800 feet across the county (NEESA, 1983).

Based on the previous subsurface investigations conducted at NAS Pensacola, including Geraghty and Miller, Inc. (1986), and Ecology and Environment, Inc. (E&E, 1991) the stratigraphy from 0 to 100 feet bls at the facility consists of, in descending order:

- An approximately 50-feet thick upper unit comprised of fine to medium-grained quartz sand with abundant shell material and localized thin layers of silty clay.
- An approximately 15-feet thick, blue to green marine clay that is laterally persistent across the facility and serves as an aquitard, inhibiting groundwater movement between the units above and below it.
- An underlying unit comprised of a complex mosaic of fine to coarse marine and fluvial sands with localized marine and fluvial clays.

4.2 SOIL SAMPLING RESULTS

A total of 31 DPT subsurface soil samples were collected from the site. Using the DPT sampling techniques and the quick turn-around detections from the on-site laboratory, areas of soil contaminated with PAHs and TRPH could be more clearly defined. Only one sample, DP26S, located at the southwest portion of the site,

reported naphthalene at a concentration of 90 mg/kg in the on-site laboratory results. The residential SCTL for naphthalene is 55 mg/kg. However, the confirmatory results of DP26S from the off-site laboratory reported a concentration of 3.5 mg/kg, well below residential SCTLs. Laboratory analytical data is provided in Appendix B.

4.3 SITE HYDROGEOLOGY

Hydrogeologic data were collected during the additional site assessment to evaluate movement of groundwater in the shallow surficial aquifer at the site. Depth to groundwater and groundwater elevation were used to determine the groundwater flow direction at the site. According to the measurements recorded, the groundwater flow is to the southeast. However, due to the proximity of the Pensacola Bay, tidal influences and irrigation systems affect the site hydrogeology.

4.3.1 Static Water Level and Groundwater Elevations

On-site depth to water measurements and groundwater elevation determinations were recorded from site monitoring wells on May 2007 and January 2009. The depth to water measurement data and the relative elevations from the well top of casing survey were used to determine relative groundwater elevations at each monitoring well. The water level measurements are compiled and provided in Appendix A. Additionally the information available has been summarized and presented graphically on Figures 4-1 and 4-2. The isocontour map created with water level measurements taken in the summer of 2000, is presented on Figure 4-3, for reference.

4.4 GROUNDWATER ASSESSMENT RESULTS

In 2007, groundwater samples were collected from 23 existing monitoring wells, 3 replacement monitoring wells, and 16 newly installed monitoring wells (42 total samples). 2007 Groundwater results are presented in Table 4-1 and exceedances shown on Figure 4-4. Forty two groundwater samples were also collected during 2007 utilizing DPT. DPT groundwater exceedances are shown on Figure 4-5. During the supplemental sampling event conducted in January 2009, groundwater samples were collected from 17 monitoring wells. Groundwater results are presented in Table 4-2 and exceedances from the 2009 sampling event are shown on Figure 4-6.

4.4.1 2007 Existing Monitoring Well Groundwater Re-sampling Results

Twenty-three existing monitoring wells and three replacement monitoring wells were sampled for specific parameters based on previous investigations and FDEP comments. Due to the proximity to the Pensacola Bay, the groundwater is shallow and the groundwater depth is from less than 1 foot to just

over 3 feet bls. Existing wells had GCTL exceedances for lead, TRPH, xylenes, ethylbenzene, naphthalene, 1-methylnaphthalene and 2-methylnaphthalene, as well as exceedances of the NADC for lead. A summary of the groundwater sampling results for the 2007 field event is presented in Table 4-1. Validated laboratory data from the January 2009 yielded similar results (Table 4-2).

4.4.2 2007 New Monitoring Well Groundwater Sampling Results

Sixteen new micro wells were installed to further delineate the two southern areas. The new wells reported detections of lead, TRPH, xylenes, ethylbenzene, naphthalene, 1-methylnaphthalene and 2-methylnaphthalene exceeding GCTLs (Table 4-1).

Results obtained from the new monitoring wells reveal PAH and TRPH groundwater plumes in the southwest portion of the site. However, the concentrations detected are below the NADC criteria. Also, in the southeast area of the site, three samples reported ethylbenzene and total xylenes exceeding the GCTLs and one sample contained only ethylbenzene exceeding GCTLs. Only one monitoring well (MW73) was reported to contain ethylbenzene exceeding the NADC. It should also be noted that lead was detected in various samples exceeding the NADC (Figure 4-4).

4.4.3 2007 DPT Groundwater Sample Results

A total of 42 DPT groundwater samples were sent to the on-site mobile laboratory and 19 of those samples were sent to the off-site laboratory for confirmation. Lead and total xylenes were reported exceeding GCTLs, but they were less than NADCs values as shown on Figure 4-5

4.4.4 2009 Monitoring Well Groundwater Sample Results

Seventeen monitoring wells were sampled during the January 2009 event. Lead, manganese, ethylbenzene, and xylene were detected at concentrations greater than their respective GCTLs. Lead was reported exceeding the NADC concentration in one location. Groundwater analytical results are presented in Table 4-2. Exceedances from the groundwater sampling event are shown on Figure 4-6.

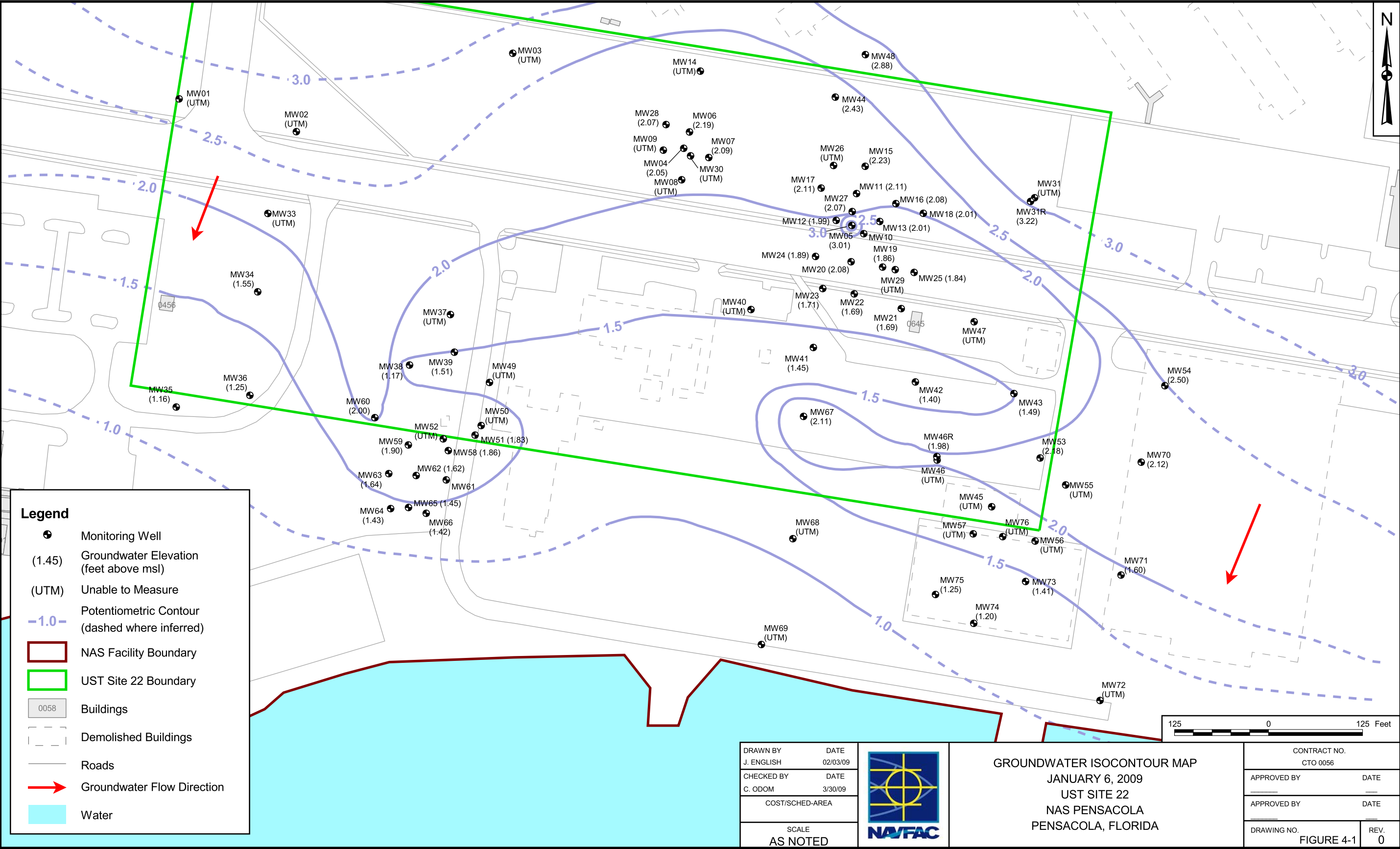
4.4.5 Lead in Groundwater

A comparison was made with the groundwater sample results for lead from this and previous investigations. A summary of the results is shown in Table 4-3. According to the comparison, there is neither an apparent trend nor pattern. Also, due to the inconsistency in detections, it was theorized that

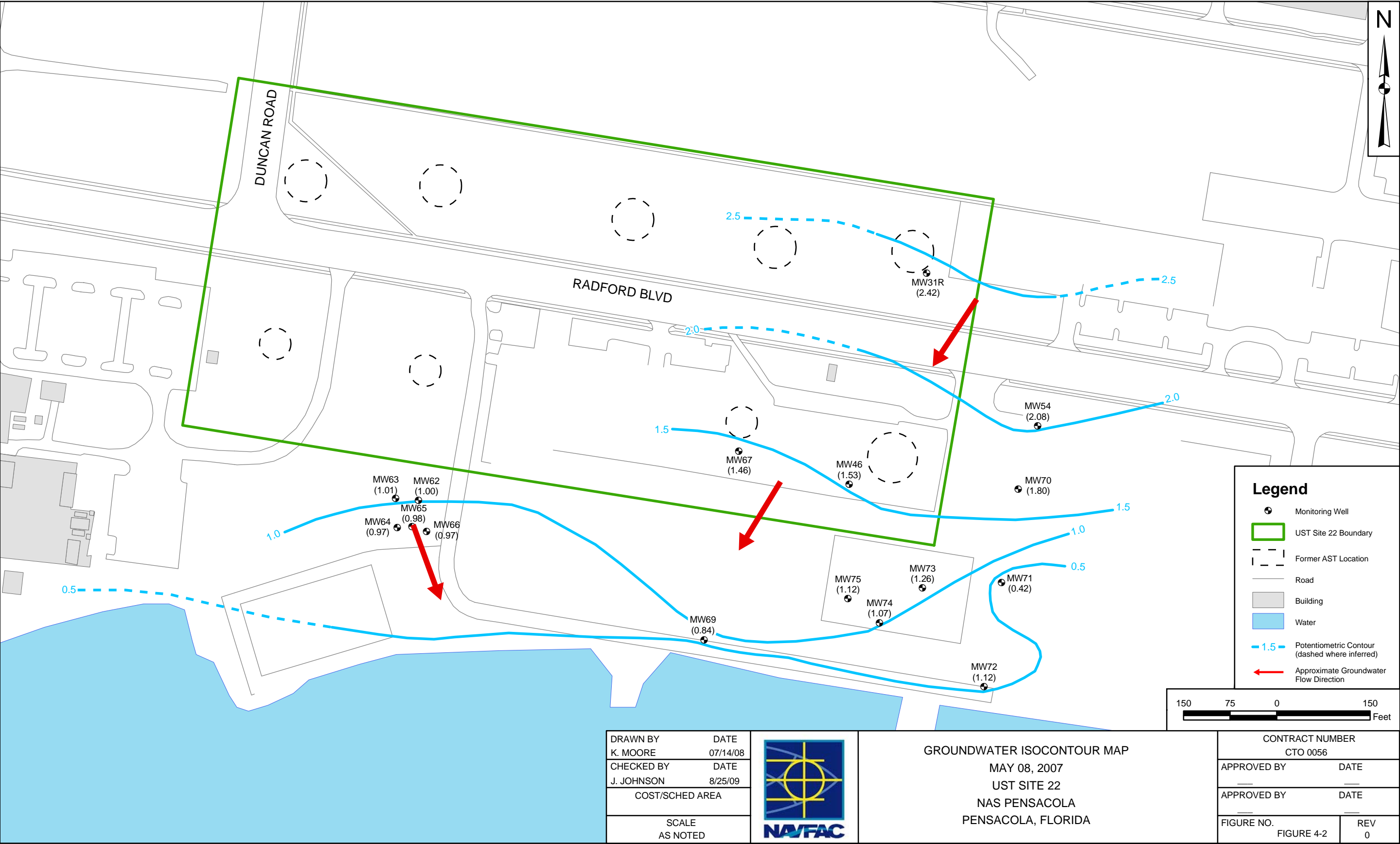
there could be an external source, not related to the site's historical use, affecting the area; thereby affecting the reported concentrations for lead.

Results from the groundwater sampling for lead and VOCs conducted in January 2009 are presented on Figure 4-6. These results of the lead analysis were used in a lead population study to determine if the lead in the groundwater was naturally occurring or anthropogenic. Using statistical analysis to compare the distribution and concentration of lead occurrences at Site 22, it was determined that the lead at the site was not naturally occurring. However, the study did not reveal any pattern to the lead exceedances. This fact leads to the conclusion that there appears to be no significant continuing source of lead at the site. The lead population analysis and graphs are located in Appendix C.

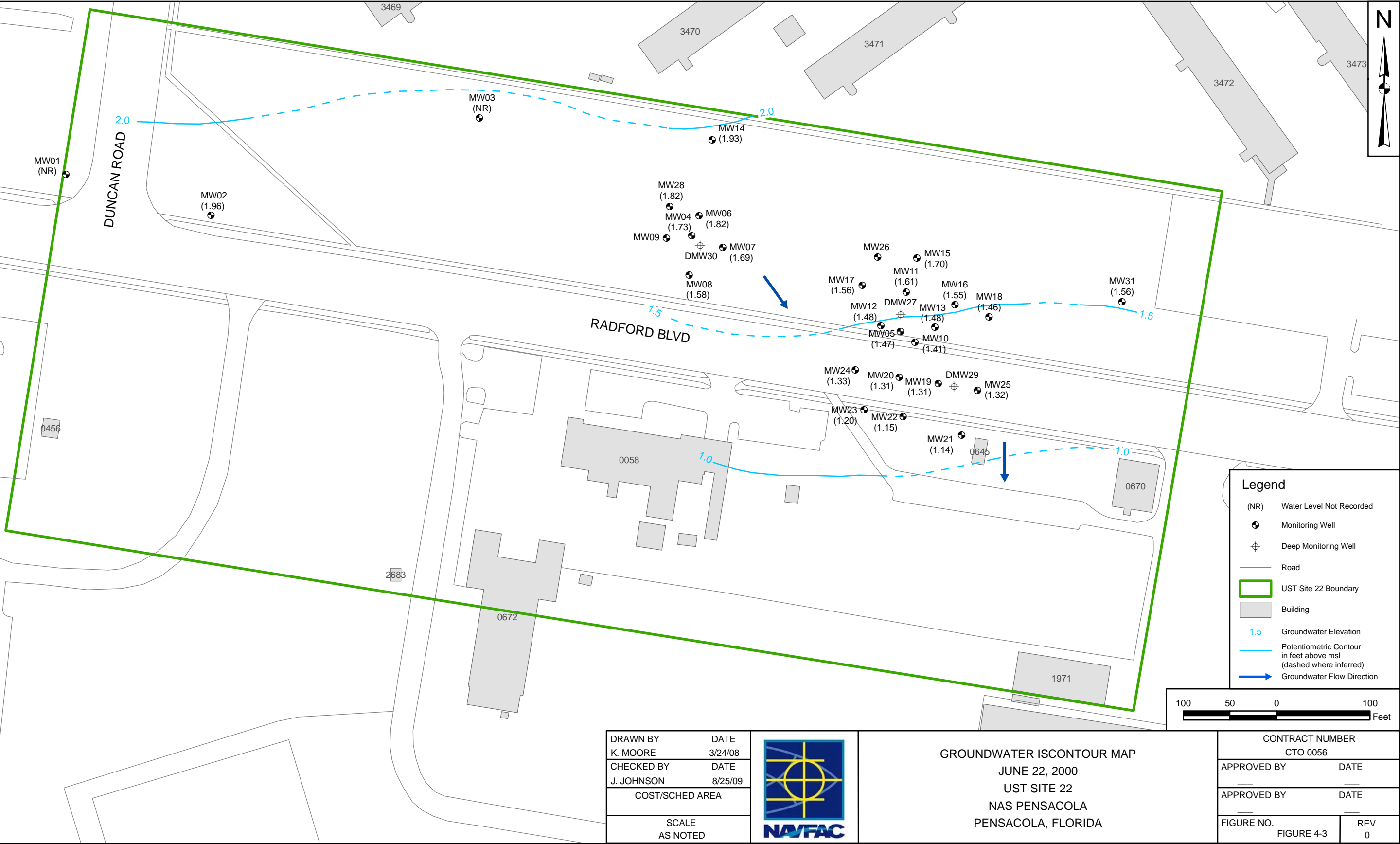
P:\GIS\PENSACOLA_NAS\MAPDOCS\APR\SITE21.APR SITE 22 MW LOCATIONS LAYOUT 8/25/09 SS

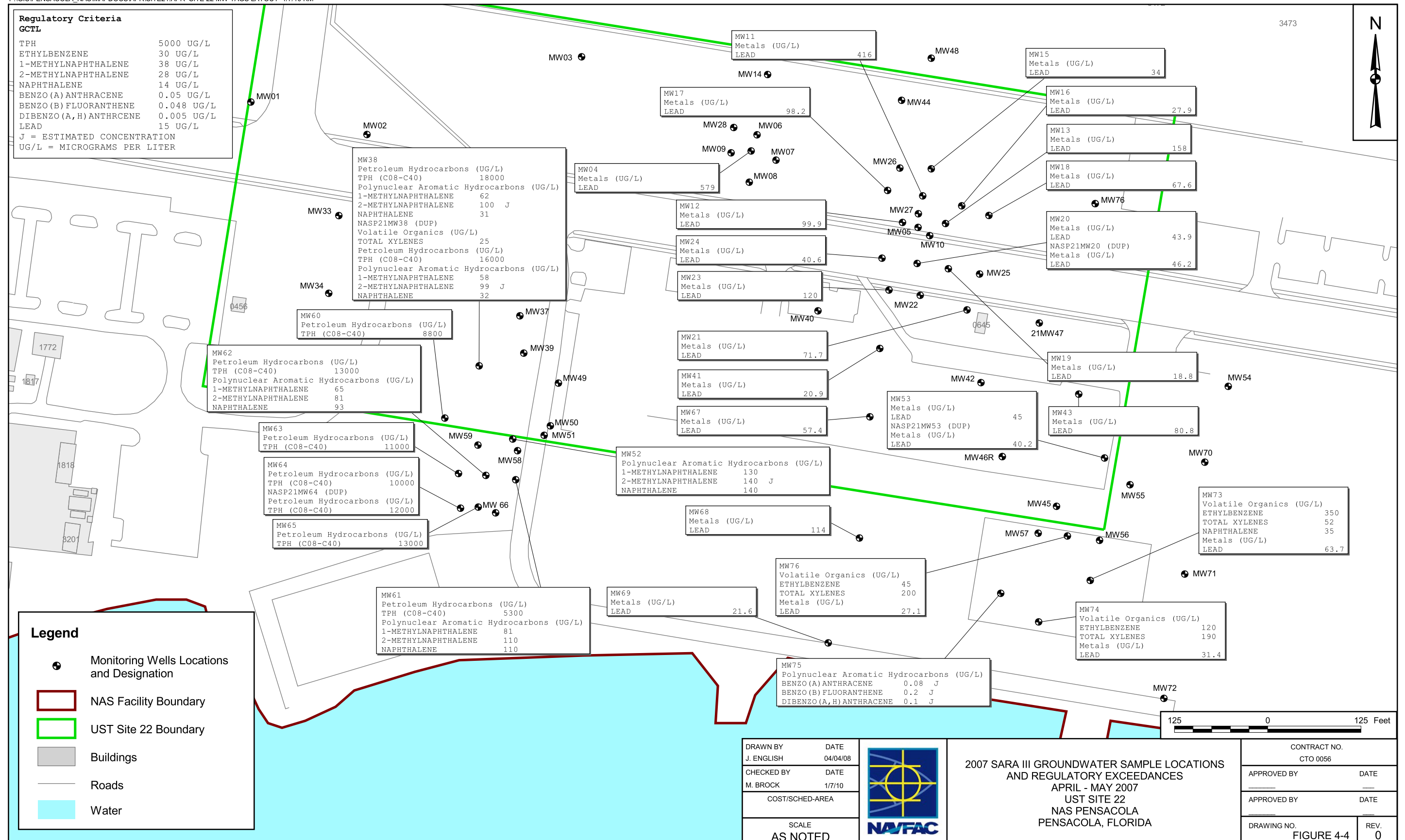


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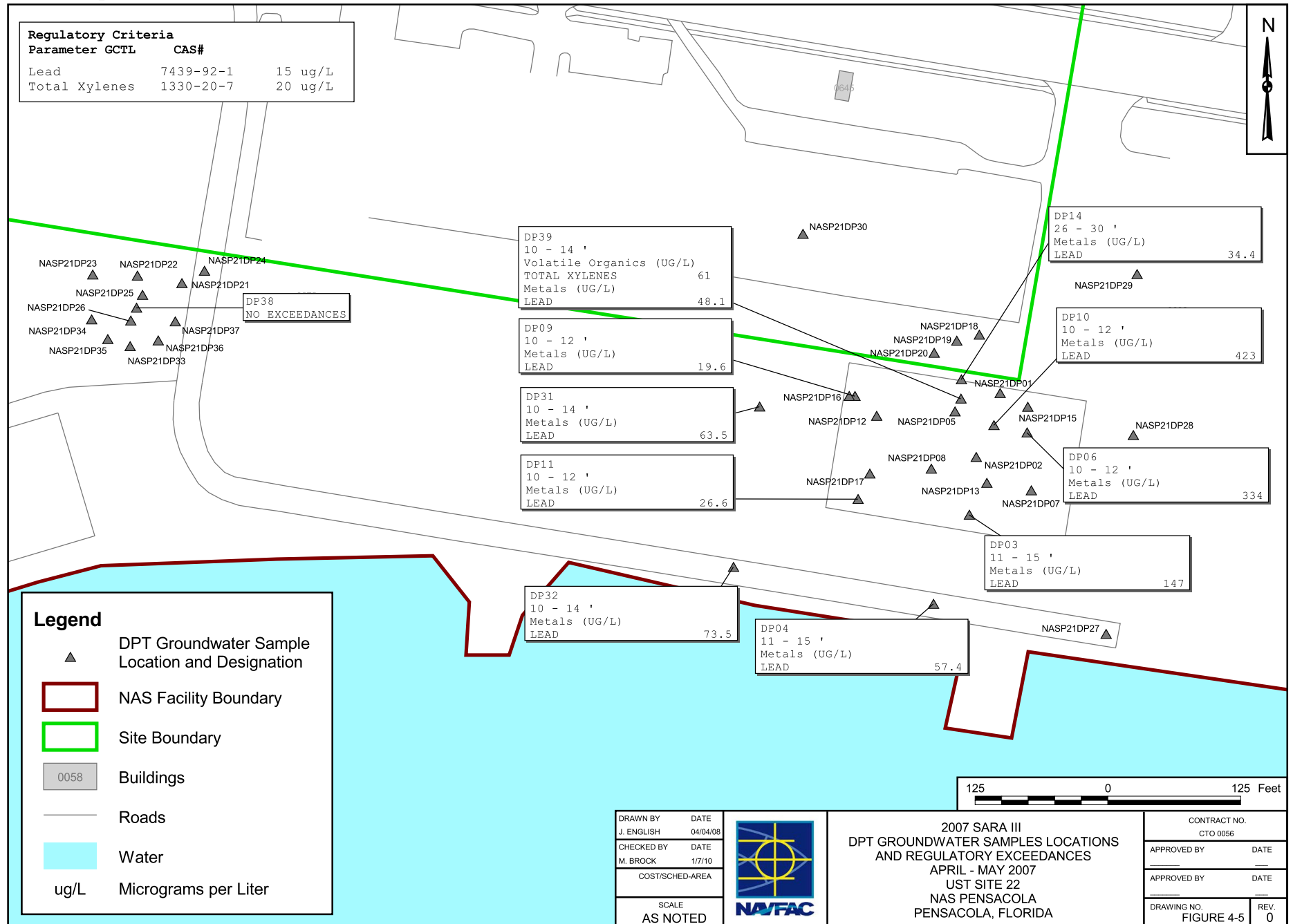




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2007 SARA III
DPT GROUNDWATER SAMPLES LOCATIONS
AND REGULATORY EXCEEDANCES
APRIL - MAY 2007
UST SITE 22
NAS PENSACOLA
PENSACOLA, FLORIDA

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**TABLE 4-1
SUMMARY OF 2007 SARA III GROUNDWATER ANALYTICAL RESULTS
UST SITE 22
NAVAL AIR STATION PENSACOLA
PENSACOLA, FLORIDA
PAGE 1 OF 9**

Sample No. Sample Location Collect Date	GCTL ⁽¹⁾ (µg/L)	Natural Attenuation Default Source Criteria ⁽⁶⁾ (µg/L)	NASP21GW0402 MW04 5/8/2007	NASP21GW1102 MW11 5/7/2007	NASP21GW1202 MW12 5/7/2007	NASP21GW1302 MW13 5/7/2007	NASP21GW1502 MW15 5/7/2007
Analyte (CAS #)							
<u>Volatile ⁽²⁾ (µg/L)</u>							
Benzene (71-43-2)	1	100	NA	NA	NA	NA	NA
Toluene (108-88-3)	40	400	NA	NA	NA	NA	NA
Ethylbenzene (100-41-4)	30	300	NA	NA	NA	NA	NA
Xylenes (1330-20-7)	20	200	NA	NA	NA	NA	NA
<u>Polycyclic Aromatic Hydrocarbons ⁽³⁾ (µg/L)</u>							
Acenaphthene (83-32-9)	20	200	NA	NA	NA	NA	NA
Acenaphthylene (208-96-8)	210	2,100	NA	NA	NA	NA	NA
Benzo (a) Anthracene (56-55-3)	0.05	5	0.07 U	0.07 U	0.07 U	0.07 U	0.07 U
Benzo (b) Fluoranthene(205-99-2)	0.05	5	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
Dibenzo (a, h) Anthracene(53-70-3)	0.005	0.5	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Fluoranthene (206-44-0)	280	2,800	NA	NA	NA	NA	NA
Fluorene (86-73-7)	280	2,800	NA	NA	NA	NA	NA
1-Methylnaphthalene (90-12-0)	28	280	NA	NA	NA	NA	NA
2-Methylnaphthalene (91-57-6)	28	280	NA	NA	NA	NA	NA
Naphthalene (91-20-3)	14	140	NA	NA	NA	NA	NA
Phenanthrene (85-01-8)	210	2,100	NA	NA	NA	NA	NA
Pyrene (129-00-0)	210	2,100	NA	NA	NA	NA	NA
<u>Total Recoverable Petroleum Hydrocarbons ⁽⁴⁾ (µg/L)</u>							
	5,000	50,000	NA	NA	NA	NA	NA
<u>Metals ⁽⁵⁾ (µg/L)</u>							
Lead (7439-92-1)	15	150	579	416	99.9	158	34

¹ Groundwater Cleanup Criteria as provided in Chapter 62-777, F.A.C.

⁶ Natural Attenuation Default Source Criteria as provide in Chapter 62-777, F.A.C.

² SW-846 8260B, ³ SW-846 8310, ⁴ FL-PRO, ⁵ SW-846 6010B U = analyte not detected above laboratory method detection limit

Bold indicates exceedance of regulatory limits.

NA = location not analyzed for this parameter

J = analyte detected at an estimated concentration

TABLE 4-1
SUMMARY OF 2007 SARA III GROUNDWATER ANALYTICAL RESULTS
UST SITE 22
NAVAL AIR STATION PENSACOLA
PENSACOLA, FLORIDA
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Sample No. Sample Location Collect Date	GCTL ⁽¹⁾ (µg/L)	Natural Attenuation Default Source Criteria ⁽⁶⁾ (µg/L)	NASP21GW1602 MW16 5/7/2007	NASP21GW1702 MW17 5/7/2007	NASP21GW1802 MW18 5/7/2007	NASP21GW1902 MW19 5/9/2007	NASP21GW2002 MW20 5/9/2007
Analyte (CAS #)							
<u>Volatile ⁽²⁾ (µg/L)</u>							
Benzene (71-43-2)	1	100	NA	NA	NA	NA	NA
Toluene (108-88-3)	40	400	NA	NA	NA	NA	NA
Ethylbenzene (100-41-4)	30	300	NA	NA	NA	NA	NA
Xylenes (1330-20-7)	20	200	NA	NA	NA	NA	NA
<u>Polycyclic Aromatic Hydrocarbons ⁽³⁾ (µg/L)</u>							
Acenaphthene (83-32-9)	20	200	NA	NA	NA	NA	NA
Acenaphthylene (208-96-8)	210	2,100	NA	NA	NA	NA	NA
Benzo (a) Anthracene (56-55-3)	0.05	5	0.07 U	0.07 U	0.07 U	0.07 U	0.07 U
Benzo (b) Fluoranthene(205-99-2)	0.05	5	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
Dibenzo (a, h) Anthracene(53-70-3)	0.005	0.5	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Fluoranthene (206-44-0)	280	2,800	NA	NA	NA	NA	NA
Fluorene (86-73-7)	280	2,800	NA	NA	NA	NA	NA
1-Methylnaphthalene (90-12-0)	28	280	NA	NA	NA	NA	NA
2-Methylnaphthalene (91-57-6)	28	280	NA	NA	NA	NA	NA
Naphthalene (91-20-3)	14	140	NA	NA	NA	NA	NA
Phenanthrene (85-01-8)	210	2,100	NA	NA	NA	NA	NA
Pyrene (129-00-0)	210	2,100	NA	NA	NA	NA	NA
<u>Total Recoverable Petroleum Hydrocarbons ⁽⁴⁾ (µg/L)</u>							
	5,000	50,000	NA	NA	NA	NA	NA
<u>Metals ⁽⁵⁾ (µg/L)</u>							
Lead (7439-92-1)	15	150	27.9	98.2	67.6	18.8	43.9

¹ Groundwater Cleanup Criteria as provided in Chapter 62-777, F.A.C.

⁶ Natural Attenuation Default Source Criteria as provide in Chapter 62-777, F.A.C.

² SW-846 8260B, ³ SW-846 8310, ⁴ FL-PRO, ⁵ SW-846 6010B U = analyte not detected above laboratory method detection limit

Bold indicates exceedance of regulatory limits.

NA = location not analyzed for this parameter

J = analyte detected at an estimated concentration

TABLE 4-1
SUMMARY OF 2007 SARA III GROUNDWATER ANALYTICAL RESULTS
UST SITE 22
NAVAL AIR STATION PENSACOLA
PENSACOLA, FLORIDA
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Sample No. Sample Location Collect Date	GCTL ⁽¹⁾ (µg/L)	Natural Attenuation Default Source Criteria ⁽⁶⁾ (µg/L)	NASP21GW2002D MW20 (duplicate) 5/9/2007	NASP21GW2102 MW21 5/7/2007	NASP21GW2302 MW23 5/7/2007	NASP21GW2402 MW24 5/9/2007	NASP21GW2502 MW25 5/9/2007
Analyte (CAS #)							
<u>Volatiles ⁽²⁾ (µg/L)</u>							
Benzene (71-43-2)	1	100	NA	NA	NA	NA	NA
Toluene (108-88-3)	40	400	NA	NA	NA	NA	NA
Ethylbenzene (100-41-4)	30	300	NA	NA	NA	NA	NA
Xylenes (1330-20-7)	20	200	NA	NA	NA	NA	NA
<u>Polycyclic Aromatic Hydrocarbons ⁽³⁾ (µg/L)</u>							
Acenaphthene (83-32-9)	20	200	NA	NA	NA	NA	NA
Acenaphthylene (208-96-8)	210	2,100	NA	NA	NA	NA	NA
Benzo (a) Anthracene (56-55-3)	0.05	5	0.07 U	0.07 U	0.07 U	0.07 U	0.07 U
Benzo (b) Fluoranthene(205-99-2)	0.05	5	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
Dibenzo (a, h) Anthracene(53-70-3)	0.005	0.5	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Fluoranthene (206-44-0)	280	2,800	NA	NA	NA	NA	NA
Fluorene (86-73-7)	280	2,800	NA	NA	NA	NA	NA
1-Methylnaphthalene (90-12-0)	28	280	NA	NA	NA	NA	NA
2-Methylnaphthalene (91-57-6)	28	280	NA	NA	NA	NA	NA
Naphthalene (91-20-3)	14	140	NA	NA	NA	NA	NA
Phenanthrene (85-01-8)	210	2,100	NA	NA	NA	NA	NA
Pyrene (129-00-0)	210	2,100	NA	NA	NA	NA	NA
Total Recoverable Petroleum Hydrocarbons ⁽⁴⁾ (µg/L)							
	5,000	50,000	NA	NA	NA	NA	NA
<u>Metals ⁽⁵⁾ (µg/L)</u>							
Lead (7439-92-1)	15	150	46.2	71.7	120	40.6	10.8

¹ Groundwater Cleanup Criteria as provided in Chapter 62-777, F.A.C.

⁶ Natural Attenuation Default Source Criteria as provide in Chapter 62-777, F.A.C.

² SW-846 8260B, ³ SW-846 8310, ⁴ FL-PRO, ⁵ SW-846 6010B U = analyte not detected above laboratory method detection limit

Bold indicates exceedance of regulatory limits.

NA = location not analyzed for this parameter

J = analyte detected at an estimated concentration

TABLE 4-1
SUMMARY OF 2007 SARA III GROUNDWATER ANALYTICAL RESULTS
UST SITE 22
NAVAL AIR STATION PENSACOLA
PENSACOLA, FLORIDA
PAGE 4 OF 9

Sample No. Sample Location Collect Date	GCTL ⁽¹⁾ (µg/L)	Natural Attenuation Default Source Criteria ⁽⁶⁾ (µg/L)	NASP21GW31R01 MW31R 5/10/2007	NASP21GW3802 MW38 5/10/2007	NASP21GW3802D MW38 (duplicate) 5/10/2007	NASP21GW4102 MW41 5/7/2007	NASP21GW4202 MW42 5/7/2007
Analyte (CAS #)							
<u>Volatile ⁽²⁾ (µg/L)</u>							
Benzene (71-43-2)	1	100	NA	0.5 U	0.5 U	NA	NA
Toluene (108-88-3)	40	400	NA	0.4 U	0.4 U	NA	NA
Ethylbenzene (100-41-4)	30	300	NA	2 J	4 J	NA	NA
Xylenes (1330-20-7)	20	200	NA	19	25	NA	NA
<u>Polycyclic Aromatic Hydrocarbons ⁽³⁾ (µg/L)</u>							
Acenaphthene (83-32-9)	20	200	NA	1	1	NA	NA
Acenaphthylene (208-96-8)	210	2,100	NA	0.06 U	0.06 U	NA	NA
Benzo (a) Anthracene (56-55-3)	0.05	5	0.07 U	0.07 U	0.07 U	0.07 U	0.07 U
Benzo (b) Fluoranthene(205-99-2)	0.05	5	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
Dibenzo (a, h) Anthracene(53-70-3)	0.005	0.5	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Fluoranthene (206-44-0)	280	2,800	NA	0.06 U	0.06 U	NA	NA
Fluorene (86-73-7)	280	2,800	NA	0.09 J	0.6	NA	NA
1-Methylnaphthalene (90-12-0)	28	280	NA	62	58	NA	NA
2-Methylnaphthalene (91-57-6)	28	280	NA	100 J	99 J	NA	NA
Naphthalene (91-20-3)	14	140	NA	31	32	NA	NA
Phenanthrene (85-01-8)	210	2,100	NA	0.05 U	0.05 U	NA	NA
Pyrene (129-00-0)	210	2,100	NA	0.06 U	0.06 U	NA	NA
Total Recoverable Petroleum Hydrocarbons ⁽⁴⁾ (µg/L)							
	5,000	50,000	NA	18,000	16,000	NA	NA
<u>Metals ⁽⁵⁾ (µg/L)</u>							
Lead (7439-92-1)	15	150	5.7 J	NS	NS	20.9	9.1

¹ Groundwater Cleanup Criteria as provided in Chapter 62-777, F.A.C.

⁶ Natural Attenuation Default Source Criteria as provide in Chapter 62-777, F.A.C.

² SW-846 8260B, ³ SW-846 8310, ⁴ FL-PRO, ⁵ SW-846 6010B U = analyte not detected above laboratory method detection limit

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NA = location not analyzed for this parameter

J = analyte detected at an estimated concentration

TABLE 4-1
SUMMARY OF 2007 SARA III GROUNDWATER ANALYTICAL RESULTS
UST SITE 22
NAVAL AIR STATION PENSACOLA
PENSACOLA, FLORIDA
PAGE 5 OF 9

Sample No. Sample Location Collect Date	GCTL ⁽¹⁾ (µg/L)	Natural Attenuation Default Source Criteria ⁽⁶⁾ (µg/L)	NASP21GW4304 MW43 5/9/2007	NASP21GW4403 MW44 5/7/2007	NASP21GW46R01 MW46R 5/10/2007	NASP21GW5101 MW51 5/10/2007	NASP21GW5202 MW52 5/10/2007
Analyte (CAS #)							
<u>Volatile ⁽²⁾ (µg/L)</u>							
Benzene (71-43-2)	1	100	1	NA	0.5 U	0.5 U	0.5 U
Toluene (108-88-3)	40	400	0.4 U	NA	0.4 U	0.4 U	0.4 U
Ethylbenzene (100-41-4)	30	300	0.3 U	NA	0.3 U	0.3 U	0.3 U
Xylenes (1330-20-7)	20	200	1 U	NA	1 U	1 U	1 U
<u>Polycyclic Aromatic Hydrocarbons ⁽³⁾ (µg/L)</u>							
Acenaphthene (83-32-9)	20	200	0.2 J	NA	0.4	0.07 U	1
Acenaphthylene (208-96-8)	210	2,100	0.06 U	NA	0.06 U	0.06 U	0.06 U
Benzo (a) Anthracene (56-55-3)	0.05	5	0.07 U	0.07 U	0.07 U	0.07 U	0.07 U
Benzo (b) Fluoranthene(205-99-2)	0.05	5	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
Dibenzo (a, h) Anthracene(53-70-3)	0.005	0.5	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Fluoranthene (206-44-0)	280	2,800	0.06 U	NA	0.06 U	0.06 U	0.06 U
Fluorene (86-73-7)	280	2,800	0.2 J	NA	0.1 J	0.07 U	0.7
1-Methylnaphthalene (90-12-0)	28	280	4	NA	0.4	1	130
2-Methylnaphthalene (91-57-6)	28	280	0.07 U	NA	0.2 J	1	140 J
Naphthalene (91-20-3)	14	140	0.3	NA	0.4	0.5	140
Phenanthrene (85-01-8)	210	2,100	0.05 U	NA	0.06 J	0.05 U	0.05 U
Pyrene (129-00-0)	210	2,100	0.06 U	NA	0.06 U	0.06 U	0.06 U
Total Recoverable Petroleum Hydrocarbons ⁽⁴⁾ (µg/L)							
	5,000	50,000	3,100	NA	2,100	290 J	3,100
<u>Metals ⁽⁵⁾ (µg/L)</u>							
Lead (7439-92-1)	15	150	80.8	7.9	14.2	NS	NS

¹ Groundwater Cleanup Criteria as provided in Chapter 62-777, F.A.C.

⁶ Natural Attenuation Default Source Criteria as provide in Chapter 62-777, F.A.C.

² SW-846 8260B, ³ SW-846 8310, ⁴ FL-PRO, ⁵ SW-846 6010B U = analyte not detected above laboratory method detection limit

Bold indicates exceedance of regulatory limits.

NA = location not analyzed for this parameter

J = analyte detected at an estimated concentration

TABLE 4-1
SUMMARY OF 2007 SARA III GROUNDWATER ANALYTICAL RESULTS
UST SITE 22
NAVAL AIR STATION PENSACOLA
PENSACOLA, FLORIDA
PAGE 6 OF 9

Sample No. Sample Location Collect Date	GCTL ⁽¹⁾ (µg/L)	Natural Attenuation Default Source Criteria ⁽⁶⁾ (µg/L)	NASP21GW5302 MW53 5/9/2007	NASP21GW5302D MW53 (duplicate) 5/9/2007	NASP21GW5401 MW54 5/10/2007	NASP21GW6001 MW60 5/8/2007	NASP21GW6101 MW61 5/8/2007
Analyte (CAS #)							
<u>Volatiles ⁽²⁾ (µg/L)</u>							
Benzene (71-43-2)	1	100	0.5 U	0.5 U	NA	0.5 U	0.5 U
Toluene (108-88-3)	40	400	0.4 U	0.4 U	NA	0.4 U	0.4 U
Ethylbenzene (100-41-4)	30	300	0.3 U	0.3 U	NA	0.3 U	0.3 U
Xylenes (1330-20-7)	20	200	8	9	NA	1 U	1 U
<u>Polycyclic Aromatic Hydrocarbons ⁽³⁾ (µg/L)</u>							
Acenaphthene (83-32-9)	20	200	0.2 J	0.2 J	NA	0.4	0.6
Acenaphthylene (208-96-8)	210	2,100	0.06 U	0.06 U	NA	2	0.06 U
Benzo (a) Anthracene (56-55-3)	0.05	5	0.07 U	0.07 U	0.07 U	0.07 U	0.07 U
Benzo (b) Fluoranthene(205-99-2)	0.05	5	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
Dibenzo (a, h) Anthracene(53-70-3)	0.005	0.5	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Fluoranthene (206-44-0)	280	2,800	0.06 U	0.06 U	NA	0.06 U	0.06 U
Fluorene (86-73-7)	280	2,800	0.2 J	0.1 J	NA	1	0.4
1-Methylnaphthalene (90-12-0)	28	280	2	2	NA	18	81
2-Methylnaphthalene (91-57-6)	28	280	2 J	2 J	NA	22	110
Naphthalene (91-20-3)	14	140	1	1	NA	4	110
Phenanthrene (85-01-8)	210	2,100	0.05 U	0.05 U	NA	0.05 U	0.05 U
Pyrene (129-00-0)	210	2,100	0.06 U	0.06 U	NA	0.06 U	0.06 U
Total Recoverable Petroleum Hydrocarbons ⁽⁴⁾ (µg/L)							
	5,000	50,000	1,000	950	NA	8,800	5,300
<u>Metals ⁽⁵⁾ (µg/L)</u>							
Lead (7439-92-1)	15	150	45	40.2	1.8 U	NS	NS

¹ Groundwater Cleanup Criteria as provided in Chapter 62-777, F.A.C.

⁶ Natural Attenuation Default Source Criteria as provide in Chapter 62-777, F.A.C.

² SW-846 8260B, ³ SW-846 8310, ⁴ FL-PRO, ⁵ SW-846 6010B U = analyte not detected above laboratory method detection limit

Bold indicates exceedance of regulatory limits.

NA = location not analyzed for this parameter

J = analyte detected at an estimated concentration

TABLE 4-1
SUMMARY OF 2007 SARA III GROUNDWATER ANALYTICAL RESULTS
UST SITE 22
NAVAL AIR STATION PENSACOLA
PENSACOLA, FLORIDA
PAGE 7 OF 9

Sample No. Sample Location Collect Date	GCTL ⁽¹⁾ (µg/L)	Natural Attenuation Default Source Criteria ⁽⁶⁾ (µg/L)	NASP21GW6201 MW62 5/8/2007	NASP21GW6301 MW63 5/8/2007	NASP21GW6401 MW64 5/8/2007	NASP21GW6401D MW64 (duplicate) 5/8/2007	NASP21GW6501 MW65 5/8/2007
Analyte (CAS #)							
<u>Volatiles ⁽²⁾ (µg/L)</u>							
Benzene (71-43-2)	1	100	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Toluene (108-88-3)	40	400	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
Ethylbenzene (100-41-4)	30	300	2	0.3 U	0.3 U	0.3 U	0.8 J
Xylenes (1330-20-7)	20	200	13	1 U	1 U	1 U	1 J
<u>Polycyclic Aromatic Hydrocarbons ⁽³⁾ (µg/L)</u>							
Acenaphthene (83-32-9)	20	200	0.5	0.5	0.3	0.3	0.4
Acenaphthylene (208-96-8)	210	2,100	0.06 U	0.06 U	0.06 U	0.06 U	0.4
Benzo (a) Anthracene (56-55-3)	0.05	5	0.07 U	0.07 U	0.07 U	0.07 U	0.07 U
Benzo (b) Fluoranthene(205-99-2)	0.05	5	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
Dibenzo (a, h) Anthracene(53-70-3)	0.005	0.5	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Fluoranthene (206-44-0)	280	2,800	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Fluorene (86-73-7)	280	2,800	0.5	0.5	0.4	0.4	0.6
1-Methylnaphthalene (90-12-0)	28	280	65	6	7	7	16
2-Methylnaphthalene (91-57-6)	28	280	81	5	11	10	16
Naphthalene (91-20-3)	14	140	93	0.9	1	0.9	8
Phenanthrene (85-01-8)	210	2,100	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Pyrene (129-00-0)	210	2,100	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U
Total Recoverable Petroleum Hydrocarbons ⁽⁴⁾ (µg/L)							
	5,000	50,000	13,000	11,000	10,000	12,000	13,000
<u>Metals ⁽⁵⁾ (µg/L)</u>							
Lead (7439-92-1)	15	150	NS	NS	NS	NS	NS

¹ Groundwater Cleanup Criteria as provided in Chapter 62-777, F.A.C.

⁶ Natural Attenuation Default Source Criteria as provide in Chapter 62-777, F.A.C.

² SW-846 8260B, ³ SW-846 8310, ⁴ FL-PRO, ⁵ SW-846 6010B U = analyte not detected above laboratory method detection limit

Bold indicates exceedance of regulatory limits.

NA = location not analyzed for this parameter

J = analyte detected at an estimated concentration

TABLE 4-1
SUMMARY OF 2007 SARA III GROUNDWATER ANALYTICAL RESULTS
UST SITE 22
NAVAL AIR STATION PENSACOLA
PENSACOLA, FLORIDA
PAGE 8 OF 9

Sample No. Sample Location Collect Date	GCTL ⁽¹⁾ (µg/L)	Natural Attenuation Default Source Criteria ⁽⁶⁾ (µg/L)	NASP21GW6601 MW66 5/8/2007	NASP21GW6701 MW67 5/9/2007	NASP21GW6801 MW68 5/9/2007	NASP21GW6901 MW69 5/9/2007	NASP21GW7001 MW70 5/9/2007
Analyte (CAS #)							
<u>Volatile ⁽²⁾ (µg/L)</u>							
Benzene (71-43-2)	1	100	0.5 U	NA	NA	NA	NA
Toluene (108-88-3)	40	400	0.4 U	NA	NA	NA	NA
Ethylbenzene (100-41-4)	30	300	0.3 U	NA	NA	NA	NA
Xylenes (1330-20-7)	20	200	1 U	NA	NA	NA	NA
<u>Polycyclic Aromatic Hydrocarbons ⁽³⁾ (µg/L)</u>							
Acenaphthene (83-32-9)	20	200	0.2 J	NA	NA	NA	NA
Acenaphthylene (208-96-8)	210	2,100	0.06 U	NA	NA	NA	NA
Benzo (a) Anthracene (56-55-3)	0.05	5	0.07 U	0.07 U	0.07 U	0.07 U	0.07 U
Benzo (b) Fluoranthene(205-99-2)	0.05	5	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
Dibenzo (a, h) Anthracene(53-70-3)	0.005	0.5	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Fluoranthene (206-44-0)	280	2,800	0.06 U	NA	NA	NA	NA
Fluorene (86-73-7)	280	2,800	0.1 J	NA	NA	NA	NA
1-Methylnaphthalene (90-12-0)	28	280	0.2 U	NA	NA	NA	NA
2-Methylnaphthalene (91-57-6)	28	280	0.3	NA	NA	NA	NA
Naphthalene (91-20-3)	14	140	0.1 J	NA	NA	NA	NA
Phenanthrene (85-01-8)	210	2,100	0.2	NA	NA	NA	NA
Pyrene (129-00-0)	210	2,100	0.06 U	NA	NA	NA	NA
<u>Total Recoverable Petroleum Hydrocarbons ⁽⁴⁾ (µg/L)</u>							
	5,000	50,000	400	NA	NA	NA	NA
<u>Metals ⁽⁵⁾ (µg/L)</u>							
Lead (7439-92-1)	15	150	NS	57.4	114	21.6	1 U

¹ Groundwater Cleanup Criteria as provided in Chapter 62-777, F.A.C.

⁶ Natural Attenuation Default Source Criteria as provide in Chapter 62-777, F.A.C.

² SW-846 8260B, ³ SW-846 8310, ⁴ FL-PRO, ⁵ SW-846 6010B U = analyte not detected above laboratory method detection limit

Bold indicates exceedance of regulatory limits.

NA = location not analyzed for this parameter

J = analyte detected at an estimated concentration

TABLE 4-1
SUMMARY OF 2007 SARA III GROUNDWATER ANALYTICAL RESULTS
SITE 22
NAVAL AIR STATION PENSACOLA
PENSACOLA, FLORIDA
PAGE 9 OF 9

Sample No. Sample Location Collect Date	GCTL ⁽¹⁾ (µg/L)	Natural Attenuation Default Source Criteria ⁽⁶⁾ (µg/L)	NASP21GW7101 MW71 5/9/2007	NASP21GW7201 MW72 5/9/2007	NASP21GW7301 MW73 5/10/2007	NASP21GW7401 MW74 5/10/2007	NASP21GW7501 MW75 5/10/2007	NASP21GW7601 MW76 5/10/2007
Analyte (CAS #)								
<u>Volatile ⁽²⁾ (µg/L)</u>								
Benzene (71-43-2)	1	100	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U
Toluene (108-88-3)	40	400	NA	NA	3	6	0.4 U	12
Ethylbenzene (100-41-4)	30	300	NA	NA	350	120	6	45
Xylenes (1330-20-7)	20	200	NA	NA	52	190	10	200
<u>Polycyclic Aromatic Hydrocarbons ⁽³⁾ (µg/L)</u>								
Acenaphthene (83-32-9)	20	200	NA	NA	0.1 J	0.07 U	0.2	0.07 U
Acenaphthylene (208-96-8)	210	2,100	NA	NA	0.06 U	0.06 U	0.06 U	0.06 U
Benzo (a) Anthracene (56-55-3)	0.05	5	0.07 U	0.07 U	0.07 U	0.07 U	0.08 J	0.07 U
Benzo (b) Fluoranthene(205-99-2)	0.05	5	0.08 U	0.08 U	0.08 U	0.08 U	0.2 J	0.08 U
Dibenzo (a, h) Anthracene(53-70-3)	0.005	1	0.1 U	0.1 U	0.1 U	0.1 U	0.1 J	0.1 U
Fluoranthene (206-44-0)	280	2,800	NA	NA	0.08 J	0.1 J	0.06 U	0.06 U
Fluorene (86-73-7)	280	2,800	NA	NA	0.07 U	0.07 U	0.1 J	0.07 U
1-Methylnaphthalene (90-12-0)	28	280	NA	NA	4	3	0.5	2
2-Methylnaphthalene (91-57-6)	28	280	NA	NA	6	4	0.6	3
Naphthalene (91-20-3)	14	140	NA	NA	35	10	8	9
Phenanthrene (85-01-8)	210	2,100	NA	NA	0.05 U	0.1 J	0.05 U	0.05 U
Pyrene (129-00-0)	210	2,100	NA	NA	0.09 J	0.1 J	0.06 U	0.06 U
<u>Total Recoverable Petroleum Hydrocarbons ⁽⁴⁾ (µg/L)</u>								
	5,000	50,000	NA	NA	2,300	2,300	1,400	3,700
<u>Metals ⁽⁵⁾ (µg/L)</u>								
Lead (7439-92-1)	15	150	2.2 U	6.3	63.7	31.4	8.5	27.1

¹ Groundwater Cleanup Criteria as provided in Chapter 62-777, F.A.C.⁶ Natural Attenuation Default Source Criteria as provide in Chapter 62-777, F.A.C.² SW-846 8260B, ³ SW-846 8310, ⁴ FL-PRO, ⁵ SW-846 6010B U = analyte not detected above laboratory method detection limit**Bold** indicates exceedance of regulatory limits.

NA = location not analyzed for this parameter

J = analyte detected at an estimated concentration

P:\GIS\PENSACOLA_NAS\MAPDOCS\APR\SITE21.APR SITE 22 MW JAN 2009 TAG LAYOUT 1/7/10 KM

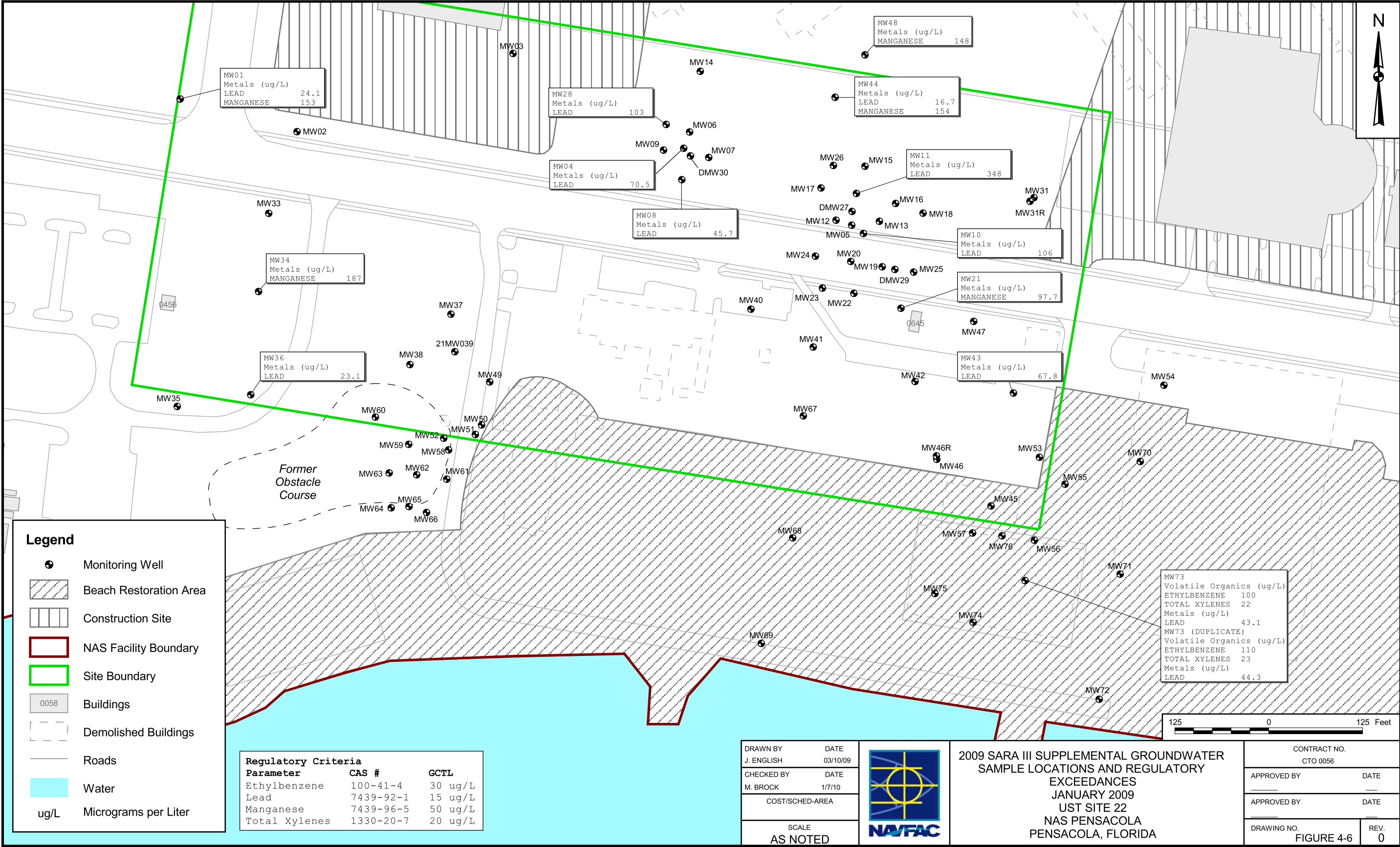


TABLE 4-2
SUMMARY OF 2009 SARA III SUPPLEMENT GROUNDWATER ANALYTICAL RESULTS
UST SITE 22
NAVAL AIR STATION PENSACOLA
PENSACOLA, FLORIDA

Rev. 1
01/18/10

Well Number Sample Date Sample ID			MW01 1/8/2009 NASP21-MW01-0109	MW04 1/7/2009 NASP21-MW04-0109	MW08 1/7/2009 NASP21-MW08-0109	MW10 1/7/2009 NASP21-MW10-0109	MW11 1/7/2009 NASP21-MW11-0109	MW21 1/7/2009 NASP21-MW21-0109
Analyte (CAS #)	FDEP GCTLs ⁽¹⁾ (µg/L)	FDEP NADC ⁽²⁾ (µg/L)						
Metals ⁽³⁾ (µg/L)								
Lead (7439-92-1)	15	150	24.1	70.5	45.7	106	348	7.5
Manganese (7439-96-5)	50	500	153	8	11.6	2 U	6.1	97.7
Zinc (7440-66-6)	5,000	50,000	28.3	88.9	951	175	423	15.4 U
Volatile Organic Compounds ⁽⁴⁾ (µg/L)								
Ethylbenzene (100-41-4)	30	300	NS	NS	NS	NS	NS	NS
Total Xylenes (1330-20-7)	20	200	NS	NS	NS	NS	NS	NS

Well Number Sample Date Sample ID			MW28 1/7/2009 NASP21-MW28-0109	MW34 1/7/2009 NASP21-MW34-0109	MW36 1/7/2009 NASP21-MW36-0109	MW39 1/7/2009 NASP21-MW39-0109	MW43 1/7/2009 NASP21-MW43-0109	MW44 1/7/2009 NASP21-MW44-0109
Analyte (CAS #)	FDEP GCTLs ⁽¹⁾ (µg/L)	FDEP NADC ⁽²⁾ (µg/L)						
Metals ⁽³⁾ (µg/L)								
Lead (7439-92-1)	15	150	103	2.5 U	23.1	10.4	67.8	16.7
Manganese (7439-96-5)	50	500	21.8	187	20.2	2 U	9.8	154
Zinc (7440-66-6)	5,000	50,000	153	90.5	144	13.1 U	5.9 U	57.3
Volatile Organic Compounds ⁽⁴⁾ (µg/L)								
Ethylbenzene (100-41-4)	30	300	NS	NS	NS	NS	NS	NS
Total Xylenes (1330-20-7)	20	200	NS	NS	NS	NS	NS	NS

Well Number Sample Date Sample ID			MW46R 1/8/2009 NASP21-MW46R-0109	MW48 1/7/2009 NASP21-MW48-0109	MW61 1/7/2009 NASP21-MW61-0109	MW69 1/7/2009 NASP21-MW69-0109	MW73 1/8/2009 NASP21-MW73-0109	MW73 (duplicate) 1/8/2009 NASP21-MW73-0109-D
Analyte (CAS #)	FDEP GCTLs ⁽¹⁾ (µg/L)	FDEP NADC ⁽²⁾ (µg/L)						
Metals ⁽³⁾ (µg/L)								
Lead (7439-92-1)	15	150	5.7	9.7	5.8	10.2	43.1	44.3
Manganese (7439-96-5)	50	500	14.6	148	29.5	5.1	3.9	4.1
Zinc (7440-66-6)	5,000	50,000	19	22.6	7.5 U	115	3.3 U	3.1 U
Volatile Organic Compounds ⁽⁴⁾ (µg/L)								
Ethylbenzene (100-41-4)	30	300	NS	NS	NS	NS	100	110
Total Xylenes (1330-20-7)	20	200	NS	NS	NS	NS	22	23

Notes:

U = analyte was not detected above laboratory method detection limit

NS = location was not sampled for this analyte

GCTL = Groundwater Cleanup Target Level

FDEP = Florida Department of Environmental Protection

NADC = Natural Attenuation Default concentrations

Values in **bold** indicate an exceedance of regulatory criteria

⁽¹⁾ As provided in Chapter 62-770 F.A.C.

⁽²⁾ As provided in Chapter 62-777 Table V F.A.C.

⁽³⁾ SW-846 6010B

⁽⁴⁾ SW-846 8260B

TABLE 4-3
SUMMARY OF HISTORICAL LEAD ANALYTICAL RESULTS
UST SITE 22
NAVAL AIR STATION PENSACOLA
PENSACOLA, FLORIDA

Rev. 1
01/18/10

Well ID	Lead Concentrations in Groundwater (µg/L)						
	Apr-97	Jun-00	Feb-03	Dec-04	Mar-05	May-07	Jan-09
MW01	4						24.1
MW02	220	1.6 U/1.6 U					
MW03	4						
MW04	8	18.2			119	579	70.5
MW05	43	24.4					
MW06	3 U	1.6 U					
MW07	93	8.2/10.7					
MW08	4	2.9					45.7
MW09	16						
MW10	27	51.2		27.4			106
MW11	42	152		769		416	348
MW12	34	31.8		61.7		99.9	
MW13	35	25.6		210		158	
MW14	3 U						
MW15	34	17.8		82.9		34	
MW16	77	14.1		74.9		27.9	
MW17	23	12.3		133		98.2	
MW18	16	3.5			1110	67.6	
MW19	26	18.4		10.0		18.8	
MW20	10			7.2		43.9/46.2	
MW21	5	10.6		29.9		71.7	7.5
MW22	13	14					
MW23	11	88.4		81.4		120	
MW24	7	8.6		24.3		40.6	
MW25	6	12.6		22.1		10.8	
MW26							
MW27							
MW28		1.6 U					103
MW29		1.6 U					
MW30		1.6 U					
MW31					5.7		
MW31R						5.7 J	
MW33							
MW34							2.5 U
MW35							
MW36							23.1
MW37							
MW38							
MW39							10.4
MW40			5.1			9.1	
MW41			6.5			20.9	

Well ID	Lead Concentrations in Groundwater (µg/L)						
	Apr-97	Jun-00	Feb-03	Dec-04	Mar-05	May-07	Jan-09
MW42			3.3 U/4.1 U			9.1	
MW43			22.9	60.8/63.4		80.8	67.8
MW44			5.0	7.2/7.1		7.9	16.7
MW45				113			
MW46				9.3			
MW46R						14.2	5.7
MW47				27.8			
MW48				3.0			9.7
MW49							
MW50							
MW51							
MW52							
MW53						45	
MW54					23.4	1.8 U	
MW55					3.8		
MW56					66.6/60.6	200	
MW57					34.8		
MW58							
MW59							
MW60							
MW61							5.8
MW62							
MW63							
MW64							
MW65							
MW66							
MW67						57.4	
MW68						114	
MW69						21.6	10.2
MW70						1 U	
MW71						2.2 U	
MW72						6.3	
MW73						63.7	43.1/44.3
MW74						31.4	
MW75						8.5	
MW76						27.1	

Bold = exceedance of Florida Groundwater Cleanup Target Level of 15 µg/L or the Natural Attenuation Default Source Criteria (NADSC) of 150 µg/L
U = analyte not detected above laboratory method detection limit
J = estimated value two values in one square indicate duplicate sample
Shaded square = not sampled during that specific event

5.0 CONCLUSIONS AND RECOMMENDATIONS

The conclusions and recommendations below are separated into three groups: conclusions of the first SARA completed in January 2001 (TtNUS, 2001); conclusions as a result of the SARA No. 2 completed in 2003 (TtNUS, 2003); and conclusions of the additional assessment and the results from the sampling events conducted in May 2007, as well as the supplemental event conducted in January 2009.

5.1 SARA I CONCLUSIONS AND RECOMMENDATIONS

The purpose of SARA I was to address CAR comments from the FDEP. The FDEP requested the following:

- Further delineation of the horizontal extent by installing wells 50 feet northwest of MW11 and 50 feet northwest of MW04.
- Delineate the vertical extent by installing one intermediate monitoring well between MW05 and MW11, one close to MW19 and one adjacent to MW04 at around 30 to 35 feet bls.
- Further assess lead in groundwater.
- Install a monitoring well 60 feet southeast of southeast parking lot, near the area where free product was observed.
- Record water table measurements before each sample.
- Surface and subsurface samples should be taken in areas where monitoring wells had exceedances.

Based on the data reported from the SARA I investigation:

- No free-phase petroleum hydrocarbons were detected in any of the monitoring wells.
- Fifteen (15) hand auger soil borings were completed to the water table to assess the extent of soil contamination. Confirmation soil samples collected from three soil borings contained TRPH concentrations exceeding FDEP SCTL for direct exposure - residential area [460 milligrams per kilogram (mg/kg)] and leachability to groundwater (340 mg/kg).
- Benzo(a)pyrene was detected in one subsurface soil sample at a concentration of 0.309 mg/kg, which exceeds the SCTL for direct exposure (residential area), but was below the SCTL for leachability to groundwater. Direct exposure is not a significant concern because of the sample collection depth (3.5 feet bls). All other detected PAHs were below the applicable SCTLs.

- Copper and lead were detected in a single on-site soil sample at concentrations exceeding the applicable FDEP SCTLs. The concentrations of copper and lead in the sample exceeded the direct exposure (residential area) SCTLs. These samples were collected from 5 feet bls; therefore, direct exposure is not a significant concern.
- Total xylenes was the only VOC detected in groundwater samples at a concentration exceeding the FDEP GCTL. The compound was detected in a single monitoring well (MW05) at a concentration (23 µg/L) exceeding the FDEPs GCTL of 20 µg/L.
- TRPH was detected in groundwater samples from two monitoring wells (MW05 at 6,800 µg/L and MW19 at 7,120 µg/L) at concentrations exceeding the FDEP GCTL of 5,000 µg/L.
- Lead was detected at concentrations exceeding the FDEP GCTL (15 µg/L) in samples collected from nine monitoring wells MW04 (18.2 µg/L), MW05 (24.4 µg/L), MW10 (51.2 µg/L), MW11 (152 µg/L), MW12 (31.8 µg/L), MW13 (25.6 µg/L), MW15 (17.8 µg/L), MW19 (18.4 µg/L), and MW23 (88.4 µg/L).
- The absence of detected analytes in the groundwater sample from deep monitoring well DMW29 and the limited detection of an analyte in deep monitoring well DMW30 define the vertical extent of the groundwater contamination at the site.
- The average groundwater horizontal hydraulic gradient of the site is 0.0021 feet per foot. The average groundwater vertical gradient was upward at 0.0015 feet per foot and the estimated average hydraulic conductivity at the site is 5.2587×10^{-5} feet per second.
- The theoretical groundwater seepage (linear) velocity is calculated to be approximately 2,321 feet per year. When natural retarding processes are taken into considered using a retardation factor in the velocity equation, the estimated groundwater seepage velocity is approximately 13 feet per year.

5.2 SARA II CONCLUSIONS AND RECOMMENDATIONS

The purpose of the SARA II was to address the comments from the FDEP to the SARA I. The conclusions were as follows:

- Field headspace screening results indicate that petroleum impact to soil has occurred at the western end of the site, south of Radford Boulevard. Because headspace screening detections are limited to samples collected from intervals immediately above the water table, the soil contamination in this area most likely resulted from groundwater level fluctuations over time producing a smear zone of soil exposed to contaminated groundwater.
- Fixed-base laboratory analyses indicated that TRPH concentrations were above the residential and leachability SCTLs. Because soil samples collected were from the intervals immediately above the water table, the TRPH concentrations most likely represent groundwater impact to the smear zone or

capillary fringe, and may not be due to contamination of vadose zone soil. Three soil samples from this area were submitted for soil precipitation leaching procedure (SPLP) extraction and TRPH analysis. TRPH was below the laboratory detection limits in the three samples extracted and analyzed. Groundwater samples collected from the monitoring wells installed in this area had TRPH concentrations below the GCTL for TRPH.

- Two surface soil samples collected south of Building 670 had PAH detections at concentrations exceeding SCTLs. The surface soil sample from SB29 had five PAH compounds exceeding the SCTLs. Soil boring SB29 was the western-most boring advanced in this area during the SAR addendum investigation. Lead and copper concentrations in the soil samples collected during this investigation were below the SCTLs.
- The extent of the dissolved lead groundwater plume reported from previous investigations at the eastern end of the site appears to be delineated. Previous work at the site and results from the most recent investigation indicate that this plume originates north of Radford Boulevard and extends south to the former location of Building 645. The lead GCTL exceedance detected in MW43 appears to be separate from the original lead plume and may originate from a different release.

5.3 SARA III CONCLUSIONS AND RECOMMENDATIONS

Following the conclusions and recommendations from SARA II, a Triad approach was used to better define the contamination in soil and groundwater at the site. Extensive soil and groundwater sampling has been conducted throughout the history of investigation at Site 22, as seen on Figure 5-1. A schematic illustrating the areas that have reported high detections of contaminants throughout the history of the investigation at Site 22 is shown on Figure 5-2.

In accordance with the conclusions in the SARA I, SARA II and with the results of the investigations from SARA III, TtNUS recommends that a RAP be completed to address the TRPH contaminated soils and groundwater at UST Site 22. In addition to the proposed RAP, confirmatory groundwater sampling should be completed to verify the reported high concentrations of ethylbenzene and inconsistencies between lead concentrations in groundwater, and confirmatory soil sampling should be conducted around DP26S due to high detections of PAHs prior to remedial plan design.

Inorganic petroleum constituents comprise two separate plumes of groundwater exceeding the GCTL across the southern portion of the site. The plumes appear to originate from two former AST locations. The delineated plumes cover approximately two acres in total area. Monitoring only is recommended for these locations since exposure is unlikely and due to the delicate nature of the restored landscape in those areas.

Results of the supplemental sampling event conclude that the lead in groundwater is not naturally occurring. Furthermore, there is not a continuing source, as evidenced by the fact that there is not a defined pattern to the lead exceedances at the site. Exceedances of the GCTLs for lead and manganese were encountered during the study. Also, there was an exceedance of the NADC criteria for lead at monitoring well MW11, a monitoring well located at the edge or immediately downgradient of a former AST. TtNUS recommends groundwater monitoring only. However, due to the erratic nature of the lead exceedances, the number of monitoring locations should be increased to include all on-site monitoring wells for at least one event. This has not previously occurred and would give an overall representation of lead concentrations in groundwater across the site. Further monitoring could be adjusted based on results of this event. In addition, an upgradient monitoring well should be designated as a site-specific background location for comparison of future groundwater sampling events.

REFERENCES

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APPENDIX A

2009 FIELD DATA SHEETS

BORING LOG

PROJECT NAME: Site 21
PROJECT NUMBER: 112600583
DRILLING COMPANY: mtw Drilling
DRILLING RIG: 6610DT GeoProbe.

BORING No.: NASP21 DPO1
DATE: 4-30-07
GEOLOGIST: J.D. Spaulding
DRILLER: Dave

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION			U S C S *	Remarks	PID/FID Reading (ppm)			
					Soil Density/ Consistency or Rock Hardness	Color	Material Classification			Sample	Sampler BZ	Borehole**	Driller BZ**
				10-12'			Surface Sand						
			soil sample	12" / 3.5ft			white Clean.		DPOIS 4-5'				
			soil sample	3.5ft / 5ft.			Brown Sand med fine Moist light grey Qtz med fine Sand.		DPOIS 6-7'				
				5ft.			4 in Biotite Sand		5-7 feet Soil Sample				
							Then moist. med light grey QTZ Sand.		Σ ≈ 7.5ft.				
									→ DPOI 10-11-7				
				10ft									
				H ₂ O Sample					Pulled water Sample 10-12				
									DPOI-10-12				
				H ₂ O Sample					Pulled water Sample 15-17				
									DPOI-15-17				

* When rock coring, enter rock brokenness.

**** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated response read.**

Remarks: _____

Drilling Area
Background (ppm):

Converted to Well:	Yes	No	Well I.D. #:
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BORING LOG

NASP 21

Page 1 of 1

PROJECT NAME: Site 21
PROJECT NUMBER: 112600583
DRILLING COMPANY: M & W Drilling
DRILLING RIG: 6610DT 606Probe

BORING No.: DPO2
DATE: 04-30-07
GEOLOGIST: J.D. Spalding
DRILLER: Dave

[illegible]

* When rock coring, enter rock brokenness.

**** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated response read.**

Remarks:

Drilling Area
Background (ppm):

Converted to Well: Yes No Well I.D. #:

BORING LOG

NASPSite21 Page ____ of ____

PROJECT NAME: Site 21
PROJECT NUMBER: 112600583
DRILLING COMPANY: M&W Drilling
DRILLING RIG: 6610DT

BORING NO.: DPO3
DATE: 5-1-07
GEOLOGIST: J.D. Spalding
DRILLER: Dave

[illegible]

* When rock coring, enter rock brokenness.

**** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated response read.**

Remarks:

Drilling Area
Background (ppm):

Converted to Well:	Yes	No	Well I.D. #:
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BORING LOG

NASP site Page 21 of 21

PROJECT NAME: Site 21
PROJECT NUMBER: 112600583
DRILLING COMPANY: M + W Drilling
DRILLING RIG: 6610 AT

BORING No.: DP04
DATE: 5-1-07
GEOLOGIST: J. D. Spalding
DRILLER: Dave

[illegible]

* When rock coring, enter rock brokenness.

**** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated response read.**

Remarks:

Drilling Area
Background (ppm):

Converted to Well:	Yes	No	Well I.D. #:
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Tetra Tech NUS, Inc.

BORING LOG

NASP site 21 Page ____ of ____

PROJECT NAME: Site 21
 PROJECT NUMBER: 112600583
 DRILLING COMPANY: M + W Drilling
 DRILLING RIG: 6610 DT

BORING No.: DP05
 DATE: 5-1-07
 GEOLOGIST: J.D. Spalding
 DRILLER: Dave

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION			U S C S *	Remarks	PID/FID Reading (ppm)			
					Soil Density/ Consistency or Rock Hardness	Color	Material Classification			Sample	Sampler BZ	Borehole**	Driller BZ**
							0-2" white qtz sand						
							2"-12" brown, poor consolidated sand						
							1'-1'2" red poorly consolidated clayey sand (Fe rich)						
							1'2"-4.5' light tan qtz sand						
				soil sample			4.5'-5' black to dk brown sand (clayey?)		DP05S 5-6'				
				H ₂ O sample			5'-10' gray sand		DP05W 10-12'				

* When rock coring, enter rock brokenness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated response read.

Remarks: _____

 Drilling Area
 Background (ppm):

Converted to Well: Yes _____ No _____ Well I.D. #: _____

BORING LOG

PROJECT NAME: Site 21 CT056
PROJECT NUMBER: 112600583
DRILLING COMPANY: M3W Drilling
DRILLING RIG: 6610 DT

BORING No.: DP06
DATE: 5-01-07
GEOLOGIST: J. D. Spalding
DRILLER: Dave

[illegible]

* When rock coring, enter rock brokenness.

**** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated response read.**

Remarks:

Drilling Area
Background (ppm):

Converted to Well:	Yes	No	Well I.D. #:
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BORING LOG

Page of

NASP site 21

PROJECT NAME: Site 21 CTO56
PROJECT NUMBER: 112600583
DRILLING COMPANY: M + W Drilling
DRILLING RIG: 6610 DT

BORING No.: DP 07
DATE: 5-1-07
GEOLOGIST: J. D. Spalding
DRILLER: Dave

[illegible]

* When rock coring, enter rock brokenness.

**** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated response read.**

Remarks:

Drilling Area

Background (ppm):

Converted to Well:	Yes	No	Well I.D. #:
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BORING LOG

NASP site 21 Page ____ of ____

PROJECT NAME: Site 21
PROJECT NUMBER: 112600583
DRILLING COMPANY: M + W Drilling
DRILLING RIG: 6610 DT

BORING No.: NP 08
DATE: 5-2-07
GEOLOGIST: J. Spalding
DRILLER: Dave

[illegible]

* When rock coring, enter rock brokenness.

**** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated response read.**

Remarks:

Drilling Area
Background (ppm):

Converted to Well:	Yes	No	Well I.D. #:
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BORING LOG

NASP Site 21 Page ____ of ____

PROJECT NAME: site 21
PROJECT NUMBER: 112600583
DRILLING COMPANY: M + W Drilling
DRILLING RIG: 6610 AT

BORING No.: DP09
DATE: 5-2-07
GEOLOGIST: J D Spalding
DRILLER: Dave

[illegible]

* When rock coring, enter rock brokenness.

**** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated response read.**

Remarks:

Drilling Area
Background (ppm):

Converted to Well:	Yes	No	Well I.D. #:
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BORING LOG

PROJECT NAME: NASP Site 21
PROJECT NUMBER: 112600583
DRILLING COMPANY: M3W Drilling
DRILLING RIG: 6610DT

BORING No.: DP10
DATE: 5-02-07
GEOLOGIST: J.D. Spalding
DRILLER: Dave Duncan

[illegible]

* When rock coring, enter rock brokenness.

**** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated response read.**

Remarks:

Drilling Area
Background (ppm):

Converted to Well:	Yes	No	Well I.D. #:
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BORING LOG

~~10~~ NAsp. site 21

Page ____ of ____

PROJECT NAME: site 21
PROJECT NUMBER: 112600583
DRILLING COMPANY: M + W Drilling
DRILLING RIG: 6610 NT

BORING NO.: HP 23
DATE: 5-3-07
GEOLOGIST: J.D. Spalding
DRILLER: Dave

[illegible]

* When rock coring, enter rock brokenness.

**** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated response read.**

Remarks: _____

Drilling Area
Background (ppm):

Converted to Well:	Yes	No	Well I.D. #:
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Tetra Tech NUS, Inc.

BORING LOG

Page ____ of ____

PROJECT NAME: Site 21
 PROJECT NUMBER: 112600583
 DRILLING COMPANY: M&W Drilling
 DRILLING RIG: 6610 DT

BORING No.: NASP²¹ DP25
 DATE: 5-4-07
 GEOLOGIST: J.D. Spalding
 DRILLER: Dave

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION			U S C S *	Remarks	PID/FID Reading (ppm)			
					Soil Density/ Consistency or Rock Hardness	Color	Material Classification			Sample	Sampler BZ	Borehole**	Driller BZ**
							0-6" lt. brown gtz sand						
							6"-4.5' lt. brown and lt. gray gtz sand						
							4.5'-4.7' blackish orange clayey sand w/ petro odor		DP25S-4.5-6'				
							4.7-7.5' lt. gray gtz sand w/ petro odor		DP25S-6-7.5'				
							7.5-10' gray gtz sand		DP25W-14-18'				

* When rock coring, enter rock brokenness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated response read.

Remarks: _____

 Drilling Area
 Background (ppm):

Converted to Well: Yes _____ No _____ Well I.D. #: _____

BORING LOG

PROJECT NAME: Site 21
PROJECT NUMBER: 112,600583
DRILLING COMPANY: M & W Drilling
DRILLING RIG: 6610DT

BORING NO.: NASP 22 DP 26
DATE: 5-4-07
GEOLOGIST: J.D. Spalding
DRILLER: Dave Duncan

[illegible]

* When rock coring, enter rock brokenness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated response read.

Remarks: _____

Drilling Area
Background (ppm):

Converted to Well:	Yes	No	Well I.D. #:
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BORING LOG

NASP site 21

Page ____ of ____

PROJECT NAME: site 21
PROJECT NUMBER: 112600583
DRILLING COMPANY: M + W Drilling
DRILLING RIG: 6610 DT

BORING NO.: DP 33
DATE: 5-5-07
GEOLOGIST: J.D. Spalding
DRILLER: Dave

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION			U S C S *	Remarks	PID/FID Reading (ppm)			
					Soil Density/ Consistency or Rock Hardness	Color	Material Classification			Sample	Sampler BZ	Borehole**	Driller BZ*
		/					0-3" white to lt. tan fine gtz sand						
		/					3"-2' brown to lt brown fine gtz. sand		DP33S-5-6'				
		/					2'-@5.5' lt. tan and lt. gray fine gtz sand						
		/					A few 1/4 inch thick brown clay lenses in the next 1/2 foot Very lt. odor, saturation @ 7.5' 5.5-10' gray fine gtz sand						
		/		H ₂ O samples					DP33W-13-15'				

* When rock coring, enter rock brokenness.

**** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated response read.**

Remarks:

Drilling Area

Background (ppm):

Converted to Well:	Yes	No	Well I.D. #:
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Tetra Tech NUS, Inc.

BORING LOG

MSP site 21 Page ____ of ____

PROJECT NAME: site 21
 PROJECT NUMBER: 112600588
 DRILLING COMPANY: M + W Drilling
 DRILLING RIG: 6610 DT

BORING No.: DP34
 DATE: 5-5-07
 GEOLOGIST: J D Spalding
 DRILLER: Dave

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION			U S C S *	Remarks	PID/FID Reading (ppm)			
					Soil Density/ Consistency or Rock Hardness	Color	Material Classification			Sample	Sampler BZ	Borehole**	Driller BZ**
							0-4" lt. brown fine - coarse qtz sand						
							4"-3' lt. tan to lt gray fine, poor consolidated qtz sand		DP34S - 4.5-5.5'				
				soil sample			3'-4' brown fine qtz sand with a black 1/4" clay lense @ 4'		DP34S - 5.5-6.5'				
				soil sample			saturation @ 6' 5'-10' gray fine qtz sand		DP34W - 13-15'				
				H ₂ O sample									

* When rock coring, enter rock brokenness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated response read.

Remarks: _____

Drilling Area
 Background (ppm):

Converted to Well: Yes _____ No _____ Well I.D. #: _____



Tetra Tech NUS, Inc.

BORING LOG

NASP site 21

Page ___ of ___

PROJECT NAME: Site 21
 PROJECT NUMBER: 112600583
 DRILLING COMPANY: M + W Drilling
 DRILLING RIG: 6610 DT

BORING No.: DP36
 DATE: 5-5-07
 GEOLOGIST: J D Spalding
 DRILLER: Dave

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION			U S C S *	Remarks	PID/FID Reading (ppm)			
					Soil Density/Consistency or Rock Hardness	Color	Material Classification			Sample	Sampler BZ	Borehole**	Driller BZ**
							0-1' lt brown fine - coarse qtz sand						
							1-2.5' fine lt. brown qtz sand						
							2.5'- 6' lt. brown to lt. gray fine qtz sand						
				Set sample			6'-7' lt. brown to blackish brown clayey sand		DP365-6-7'				
				Soil sample			Saturation @ 8' 7-8.5' dk gray fine qtz sand		DP365-7-8.5'				
				H ₂ O samples			8.5-10' gray, fine qtz sand		DP36W-13-15'				

* When rock coring, enter rock brokenness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated response read.

Remarks: _____

Drilling Area

Background (ppm):

Converted to Well: Yes _____ No _____

Well I.D. #: _____



Tetra Tech NUS, Inc.

BORING LOG

NASP site 21 Page ____ of ____

PROJECT NAME: site 21
 PROJECT NUMBER: 112600533
 DRILLING COMPANY: M+W Drilling
 DRILLING RIG: 6610 DT

BORING No.: DP37
 DATE: 5-5-07
 GEOLOGIST: J. Spalding
 DRILLER: Dave

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION			U S C S *	Remarks	PID/FID Reading (ppm)			
					Soil Density/ Consistency or Rock Hardness	Color	Material Classification			Sample	Sampler BZ	Borehole**	Driller BZ**
							0-4" lt. tan fine - coarse qtz sand						
							4"-1.5' lt. brown to brown clayey sand						
							1.5-2.5' lt. brown to lt. tan fine qtz sand						
							2.5-6' lt. brown fine qtz sand						
				soil sample			6-10' gray qtz sand		DP37S-6-7'				
				H ₂ O samples					DP37W-13-15'				

* When rock coring, enter rock brokenness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated response read.

Remarks: _____

 Drilling Area
 Background (ppm):

Converted to Well: Yes _____ No _____ Well I.D. #: _____



Tetra Tech NUS, Inc.

BORING LOGPage 1 of 2

PROJECT NAME: WASP Site 21
 PROJECT NUMBER: 112600583
 DRILLING COMPANY: M&W Drilling
 DRILLING RIG: 6610 DT

BORING No.: MW 76
 DATE: 5-09-07
 GEOLOGIST: J. D. Spaulding
 DRILLER: Dave Duncan

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION			U S C S *	Remarks	PID/FID Reading (ppm)			
					Soil Density/ Consistency or Rock Hardness	Color	Material Classification			Sample	Sampler BZ	Borehole**	Driller BZ**
				0'			See DP05/14/39		Push to 20'				
							For G-20'		Start Soil Boring				
							Push to 20's start		To Identify				
							Description		Basal Aquiclude				
				20'									
							8" Med grey med fine						
							QTZ Sand.						
							2" Biotic wood/void						
							Trashy grey med fine						
				22.5			Sand - white fine						
							Sand.						
							Dark Black Biotic						
							Sandy clay						
							w/ CISA SACS Bottom						
				25			@ 25'						
							Dark Grey green/Black						
							CISA - SACS clay saturated						
							3 Soft.						
				27.5									
							Same as above						
				30'									

* When rock coring, enter rock brokenness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated response read.

Remarks: _____

 Drilling Area
 Background (ppm):

Converted to Well: Yes _____ No _____ Well I.D. #: _____

BORING LOG

PROJECT NAME: WASPSite 21
PROJECT NUMBER: 112606583
DRILLING COMPANY: M&W Drilling
DRILLING RIG: 6610 DT

BORING No.: NASBP MW 76
DATE: 5-9-07
GEOLOGIST: J. D. Spalding
DRILLER: Dave Duncan

[illegible]

* When rock coring, enter rock brokenness.

**** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated response read.**

Remarks: _____

Drilling Area
Background (ppm):

Converted to Well:	Yes	No	Well I.D. #:
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Tetra Tech NUS, Inc.

GROUNDWATER LEVEL MEASUREMENT SHEET

Project Name: PEN UST 21 **Project No.:** N 4073
Location: Site 21 **Personnel:** W.D. Olson/C. Odom
Weather Conditions: _____ **Measuring Device:** Water level indicator
Tidally Influenced: Yes X No _____ **Remarks:** _____

Well or Piezometer Number	Date	Time	TOC Elevation (feet)*	Installed Well Depth (feet)*	Measured Well Depth (feet)*	Water Level (feet)*	Groundwater Elevation (feet)*	Comments
MW-1			26.54	3.38?	N/A	N/A		Blocked
MW-2		0820	28.08	12.89	12.76	8.70		
MW-3			28.89	5.58				Pad cracked, roots covered
MW-4		0929	28.59	12.34	12.20	8.29		stray petal odor
MW-5		0839	29.93	12.92	13.74	7.82		no lock
MW-6		0944	28.40	12.78	12.66	8.03		free product
MW-7		0935	28.49	12.74	7.74	dry		Roots @ 6.5 ft
MW-8		0927	28.50	13.18	6.00	dry		Roots @ SWL
MW-9		0951	28.45	5.38	4.57	dry		Blocked
MW-10			29.21	13.30				cap to be closed
MW-11		0849	28.59	13.08	13.00 13.51	7.46		
MW-12		0919	29.08	12.96	12.80	8.07		
MW-13		0835	28.74	13.14	13.05	7.58		ok
MW-14			28.93	13.44				Pad broken, lid gone
MW-15		0852	28.68	13.60	13.51	7.52		
MW-16		1100	28.53	14.34	13.15	7.31		
MW-17		0916	28.62	13.72	13.60	7.69		Lid gone.
MW-18		0833	28.68	13.73	13.62	17.41		
MW-19		1017	29.49	13.42	13.17	8.36		stray petal odor
MW-20		1025	29.55	13.66	13.51	8.51		
MW-21		1050	29.20	13.24	13.01	8.09		
MW-22		1052	29.33	13.34	13.19	8.22		no lock
MW-23		1057	29.04	7.44	2.74	10 obstructed		
MW-24		1029	29.41	13.12	13.00	8.51		
MW-25		1045	29.28	13.26	13.18	8.08		

* All measurements to the nearest 0.01 foot

MW24-8.48



Tetra Tech NUS, Inc.

GROUNDWATER LEVEL MEASUREMENT SHEET

Project Name: PEN UST 21 **Project No.:** N 4073
Location: Site 21 **Personnel:** W.D. Olson/H. Engle *C. Olson*
Weather Conditions: Cold, Sunny **Measuring Device:** Water level indicator
Tidally Influenced: Yes X No **Remarks:**

Well or Piezometer Number	Date	Time	TOC Elevation (feet)*	Installed Well Depth (feet)*	Measured Well Depth (feet)*	Water Level (feet)*	Groundwater Elevation (feet)*	Comments
MW-26			28.25	5.90				Blocked by roots
DMW-27		0842	28.79	33.88	33.61	7.72		no lock
MW-28		0950	28.36	13.08	12.98	8.20		no lock
DMW-29		1033	NM	33.44	33.26	8.27		TOC not surveyed no lock
DMW-30 MW-31R		1040	28.50	33.20	14.23	5.95		Destroyed no lock
MW-32			---	---				Number not used
MW-33		1505	27.97	14	12.90	7.38		non locking cap 1 1/4"
MW-34		1509	23.46	11.5	2.80	10.85		non locking cap 1 1/4"
MW-35		1514	24.43	12.5	3.82	11.11		//
MW-36		1517	26.50	13	5.97	12.02		//
MW-37		1525	27.87	13	7.59	12.33		//
MW-38		0900	28.70	13	12.20	8.65		
MW-39		—	28.88	12	—	—		unable to locate
MW-40			28.94	13				Roots @ SWL
MW-41		1123	27.92	13	12.50	7.00		non locking cap 1 1/4" 12.5'
MW-42		1455	28.92	13	12.52	7.93		non locking cap 1 1/4"
MW-43		1447	28.60	13	12.64	7.42		Non-locking cap 1 1/4"
MW-44		0900	27.90	13.5	13.20	6.73		non locking cap
MW-45			27.26	13				
MW-46R		1444	28.11	13	14.40	8.11		No lock
MW-47			29.74	13				unable to locate
MW-48		0908	26.80	13	11.62	5.08		
MW-49		1554	28.85	13	11.72	8.59		
MW-50			28.56	13				

* All measurements to the nearest 0.01 foot



Tetra Tech NUS, Inc.

GROUNDWATER LEVEL MEASUREMENT SHEET

Project Name: PEN UST 21 **Project No.:** _____
Location: Site 21 **Personnel:** _____
Weather Conditions: _____ **Measuring Device:** Water level indicator
Tidally Influenced: Yes X No **Remarks:** _____

Well or Piezometer Number	Date	Time	TOC Elevation (feet)*	Installed Well Depth (feet)*	Measured Well Depth (feet)*	Water Level (feet)*	Groundwater Elevation (feet)*	Comments
MW-51		0742	28.31	13	12.60	7.13		
MW-52		0750	29.22	13	12.40	8.25		
MW-53		1445	28.80	13	12.09	6.88		
MW-54		1055	29.80	13	14.39	7.10		no lock
MW-55			28.24	13				
MW-56			27.94	13				
MW-57			28.07	13				
MW-58		1602	28.45	13	12.43	7.87		
MW-59		1608	28.08	13	12.65	6.89		
MW-60		1613	28.56	13	12.50	7.30		
MW-61		1632			14.45	8.10		
MW-62		1634			13.61	7.22		
MW-63		1635			14.47	6.90		
MW-64		1637			14.45	7.08		
MW-65		1638			14.15	7.45		
MW-66		1640			14.25	7.60		
MW-67		1128			14.38	6.40		no lock
MW-68		1136			14.43	8.08		"
MW-69		1141			11.94	7.12		"
MW-70		1210			14.40	6.83		no lock
MW-71		1202			14.50	7.89		no lock
MW-72		1157			14.53	6.72		no lock
MW-73		1219			14.35	7.49		no lock
MW-74		1226			12.80	7.36		no lock
MW-75		1239			14.53	7.38		no lock

* All measurements to the nearest 0.01 foot

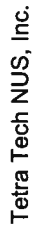
MW-76



EQUIPMENT CALIBRATION LOG

PROJECT NAME : _____
SITE NAME : site 21
PROJECT No.: _____

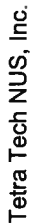
INSTRUMENT NAME/MODEL: Horiba U-2000
MANUFACTURER: Horiba
SERIAL NUMBER: _____



EQUIPMENT CALIBRATION LOG

PROJECT NAME: VAS Pensacola
 SITE NAME: Site 21
 PROJECT No.: CTO 56
 INSTRUMENT NAME/MODEL: Horiba A-22
 MANUFACTURER: _____
 SERIAL NUMBER: 9262027

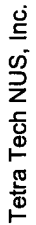
Date of Calibration	Instrument I.D. Number	Person Performing Calibration	Instrument Settings		Instrument Readings		Calibration Standard (Lot No.)	Remarks and Comments
			Pre-calibration	Post-calibration	Pre-calibration	Post-calibration		
5/7/07		C. Borges	pH	3.91	8.99 4.00	5368		
			Cond	4.59	4.48			
			Turb	-8.1	-0.5			
			DO	9.53	8.76			
5/8/07		C. Borges	pH	4.61		4.00		
			Cond	4.47		4.49		
			Turb	3.5		-0.2		
			DO	8.69		8.97		
5-9-07		C. Borges	pH	4.02		4.00		
			Cond	4.47		4.49		
			Turb	2.5		0.0		
			DO	9.28		9.04		
5/10/07		C. B	pH	4.12	3.99			
			Cond	4.33	4.52			
			Turb	12.0	0.4			
			DO	9.58	8.67			



EQUIPMENT CALIBRATION LOG

PROJECT NAME : Pensacola
SITE NAME: Site 21
PROJECT No.:
INSTRUMENT NAME/MODEL: LaMotte 2020e
MANUFACTURER:
SERIAL NUMBER: ME-11763

[illegible]



PROJECT NAME : _____
 SITE NAME: _____
 PROJECT No.: _____

INSTRUMENT NAME/MODEL: _____
 MANUFACTURER: _____
 SERIAL NUMBER: ME 10457

[illegible]

Project Site Name: **NAS Pensacola UST Site 21**
Project No.: _____

Sample ID No.: **PEN21GW0402**

Sample Location: NW09

Sampled By: C. Odum

C.O.C. No.: _____

Type of Sample: _____

[X] Low Concentration

[] High Concentration

SAMPLING DATA:

Date: 5-8-07	Color	pH	S.C.	Temp.	Turbidity	DO	ORP		
Time: 1700		Visual	Standard	mS/cm	°C	NTU	mg/l	mV	Time
Method: low flow			6.26	23.3	22.93	4.74	0.16	-52	1700

PURGE DATA:

Date:	Volume	pH	S.C.	Temp. (C)	Turbidity	DO	ORP	Time
Method: low flow	1.0L	6.17	21.4	22.64	11.4	0.60	-32	1643
Monitor Reading (ppm):	2.0L	6.24	22.4	22.5	8.4	0.21	-50	1648
Well Casing Diameter & Material	3.0L	6.25	22.6	22.91	5.36	0.22	-51	1653
Type: 2.0" PVC	4.0L	6.24	23.3	22.93	4.79	0.16	-52	1658
Total Well Depth (TD): 12.20								
Static Water Level (WL): 8.35								
One Casing Volume (gal): 2.39								
Start Purge (hrs): 1638								
End Purge (hrs): 1700								
Total Purge Time (min):								
Total Vol. Purged (gal/L):								

SAMPLE COLLECTION INFORMATION:[illegible]

NATURAL ATTENUATION PARAMETERS / OBSERVATIONS / NOTES

****Field Test Kit Results****

Dissolved Oxygen

Ferrous Iron

Hydrogen Sulfide

Carbon Dioxide

Alkalinity

Sulfide

Circle if Applicable:

Signature(s):

MS/MSD

Duplicate ID No.:

TBD: To Be Determined

Project Site Name:	NASP Site 21	Sample ID No.:	PENZIGW1102
Project No.:	CTO 56 112G00583	Sample Location:	n.w.11
		Sampled By:	C. Dan
<input type="checkbox"/> Domestic Well Data		C.O.C. No.:	
<input checked="" type="checkbox"/> Monitoring Well Data		Type of Sample:	
<input type="checkbox"/> Other Well Type:		<input checked="" type="checkbox"/> Low Concentration	
<input type="checkbox"/> QA Sample Type:		<input type="checkbox"/> High Concentration	

SAMPLING DATA:								
Date: 5-7-07	Color (Visual)	pH (S.U.)	S.C. (mS/cm)	Temp. (°C)	Turbidity (NTU)	DO (mg/l)	Salinity (ppt)	Other Salts
Time: 0915		6.29	44.2	22.2	9.9	0.05	-76	8.53
Method: low flow								

PURGE DATA:								
Date: 5-7-07	Volume	pH	S.C.	Temp.	Turbidity	DO	ORP	Salinity
Method: low flow	1.5	6.23	45.4	22.1	12.2	0.13	-51	8.53
Monitor Reading (ppm):	3.0	6.29	44.1	22.2	10.3	0.03	-77	8.53
Well Casing Diameter & Material Type: 2.0" PVC	4.5	6.29	44.2	22.2	9.9	0.05	-76	8.53
Total Well Depth (TD): 13.00								
Static Water Level (WL): 7.51								
One Casing Volume(gal): 05.79								
Start Purge (hrs): 0905								
End Purge (hrs): 0915								
Total Purge Time (min): 15								
Total Vol. Purged (gal): 4.5								

SAMPLE COLLECTION INFORMATION:			
Analysis	Preservative	Container Requirements	Collected
total Pb	HNO ₃	1 x 200ml plastic	Yes

OBSERVATIONS / NOTES: flow rate = 300ml/min

Circle if Applicable:		Signature(s):
MS/MSD	Duplicate ID No.:	

Project Site Name: NASP Site 21
Project No.: CTO 56 112G00583

Sample ID No.: PEN21GW1202

Sample Location: Site 21

Sampled By: JH

C.O.C. No.: _____

Type of Sample: _____

[X] Low Concentration

☐ High Concentration

☐ Domestic Well Data
☒ Monitoring Well Data
☐ Other Well Type:
☐ QA Sample Type:

SAMPLING DATA:

Date: 5-7-07	Color (Visual)	pH (S.U.)	S.C. (mS/cm)	Temp. (°C)	Turbidity (NTU)	DO (mg/l)	Salinity (%)	Other
Time: 09:43								
Method: low flow		6.36	0.507	22.60	2.7%	3.21	0.0	

PURGE DATA:

Date: 5/7/07	Volume	pH	S.C.	Temp.	Turbidity	DO	Salinity	Other
Method: low flow		6.44	0.582	23.15	16.1	2.47	0.0	
Monitor Reading (ppm):		6.37	0.543	22.70	1.81	2.32	0.0	
Well Casing Diameter & Material		6.36	0.507	22.60	2.76	3.21	0.0	
Type:								
Total Well Depth (TD): 12.80								
Static Water Level (WL): 8.10								
One Casing Volume (gal): .75								
Start Purge (hrs): 0930								
End Purge (hrs): 0943								
Total Purge Time (min):								
Total Vol. Purged (gal/L):								

SAMPLE COLLECTION INFORMATION:

[illegible]**OBSERVATIONS / NOTES:**

Circle if Applicable:**Signature(s):**

MS/MSD

Duplicate ID No.:

J. Halfhill

Project Site Name:		NASP Site 21	Sample ID No.:		PEN 2/GW/1302	
Project No.:		CTO 56 112G00583	Sample Location:		Site 21	
			Sampled By:		JTB	
<input type="checkbox"/> Domestic Well Data <input checked="" type="checkbox"/> Monitoring Well Data <input type="checkbox"/> Other Well Type: <input type="checkbox"/> QA Sample Type:			C.O.C. No.:			
			Type of Sample:		<input checked="" type="checkbox"/> Low Concentration <input type="checkbox"/> High Concentration	

SAMPLING DATA:

Date:	Color (Visual)	pH (S.U.)	S.C. (mS/cm)	Temp. (°C)	Turbidity (NTU)	DO (mg/l)	Salinity (%)	Other
5/7/07								
Time: 0912								
Method: low flow	clear	6.34	0.672	21.76	0.09	2.78	0.0	

PURGE DATA:

Date:	Volume	pH	S.C.	Temp. °C	Turbidity	DO	Salinity	Other
5/7/07								
Method: low flow	1 gal	5.56	.784	22.38	50.7	2.40	0.0	
Monitor Reading (ppm): Ø	~8 gal	5.84	0.785	22.52	10.07	1.59	0.0	
Well Casing Diameter & Material	1.2 gal	6.13	0.661	21.93	3.73	8.65	0.0	
Type: 2" PVC		6.34	0.672	21.76	0.09	2.78	0.0	
Total Well Depth (TD): 13.05'								
Static Water Level (WL): 7.60'								
One Casing Volume (gal/L): .87								
Start Purge (hrs): 0848								
End Purge (hrs): 0912								
Total Purge Time (min):								
Total Vol. Purged (gal/L):								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
Total Pb	HNO ₃	200 mL Poly	✓

OBSERVATIONS / NOTES:

Flow rate

Circle if Applicable:		Signature(s):
MS/MSD	Duplicate ID No.: _____	



Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Page 15 of 15

Project Site Name:	NASP Site 21	Sample ID No.: <u>PEW216W02</u>
Project No.:	CTO 56 112G00583	Sample Location: <u>WU 15 CO</u>
<input type="checkbox"/> Domestic Well Data <input checked="" type="checkbox"/> Monitoring Well Data <input type="checkbox"/> Other Well Type: _____ <input type="checkbox"/> QA Sample Type: _____		Sampled By: <u>[Signature]</u> C.O.C. No.: _____ Type of Sample: <input checked="" type="checkbox"/> Low Concentration <input type="checkbox"/> High Concentration

SAMPLING DATA:

Date:	Color (Visual)	pH (S.U.)	S.C. (mS/cm)	Temp. (°C)	Turbidity (NTU)	DO (mg/l)	Salinity (%)	Other
5-7-07		6.39	48.5	21.8	12.6	0.13	-30	7.62
Time: 0955								
Method: low flow								

PURGE DATA:

Date:	Volume	pH	S.C.	Temp.	Turbidity	DO	Salinity	Other
5-7-07	1.5	6.41	51.3	21.9	38.9	0.70	-31	7.61
Method: low flow	3.0	6.40	52.1	21.9	14.9	0.14	-31	7.62
Monitor Reading (ppm):	4.5	6.39	48.5	21.8	12.6	0.13	-30	7.62
Well Casing Diameter & Material Type: 2.0" PVC								
Total Well Depth (TD): 13.51								
Static Water Level (WL): 7.53								
One Casing Volume (gal/L): 3.63								
Start Purge (hrs): 0940								
End Purge (hrs): 0955								
Total Purge Time (min):								
Total Vol. Purged (gal/L):								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
total Pb	HNO ₃	1X200mL plastic	Yes

OBSERVATIONS / NOTES:

flow rate = 300 mL/min

Circle if Applicable:

MS/MSD	Duplicate ID No.:	Signature(s): <u>[Signature]</u>
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Project Site Name:		NASP Site 21	Sample ID No.:	PEN216W1602
Project No.:		CTO 56 112G00583	Sample Location:	Site 21
			Sampled By:	JH
<input type="checkbox"/> Domestic Well Data <input checked="" type="checkbox"/> Monitoring Well Data <input type="checkbox"/> Other Well Type: <input type="checkbox"/> QA Sample Type:			C.O.C. No.:	
			Type of Sample:	<input checked="" type="checkbox"/> Low Concentration <input type="checkbox"/> High Concentration

SAMPLING DATA:								
Date:	Color (Visual)	pH (S.U.)	S.C. (mS/cm)	Temp. (°C)	Turbidity (NTU)	DO (mg/l)	Salinity (%)	Other
5-7-07								
Time: 11:30								
Method: low flow		6.44	0.632	22.21	0.03	9.91	0.0	

PURGE DATA:								
Date:	Volume	pH	S.C.	Temp.	Turbidity	DO	Salinity	Other
5-7-07								
Method: low flow		6.64	0.661	23.39	39.2	2.74	0.0	
Monitor Reading (ppm):		6.56	0.650	22.64	14.0	2.00	0.0	
Well Casing Diameter & Material		6.45	0.645	22.34	2.42	10.1	0.0	
Type: 2" PVC		6.44	0.632	22.21	0.03	9.91	0.0	
Total Well Depth (TD): 13.15								
Static Water Level (WL): 7.3								
One Casing Volume(gal/L): 0.936								
Start Purge (hrs): 1103								
End Purge (hrs): 1130								
Total Purge Time (min):								
Total Vol. Purged (gal/L):								

SAMPLE COLLECTION INFORMATION:			
Analysis	Preservative	Container Requirements	Collected
10t9/Pb	HNO ₃	200 mL Poly	✓

OBSERVATIONS / NOTES:
7.3 11:03 13.15 <hr/> $5.85 \times 0.16 = 0.936$

Circle if Applicable:		Signature(s):
MS/MSD	Duplicate ID No.:	L. Halfhill



GROUNDWATER SAMPLE LOG SHEET

Page 1 of 1

Project Site Name: NASP Site 21
 Project No.: CTO 56 112G00583

- ☐ Domestic Well Data
☒ Monitoring Well Data
☐ Other Well Type: _____
☐ QA Sample Type: _____

Sample ID No.: PE/21GW/1702
 Sample Location: Site 21
 Sampled By: JH
 C.O.C. No.: _____
 Type of Sample: _____
☒ Low Concentration
☐ High Concentration

SAMPLING DATA:

Date:	Color	pH	S.C.	Temp.	Turbidity	DO	Salinity	Other
<u>5/7/7</u>	(Visual)	(S.U.)	(mS/cm)	(°C)	(NTU)	(mg/l)	(%)	
Time: <u>1035</u>								
Method: <u>low flow</u>		<u>6.39</u>	<u>0.474</u>	<u>23.65</u>	<u>1.90</u>	<u>8.96</u>	<u>0.0</u>	

PURGE DATA:

Date:	Volume	pH	S.C.	Temp.	Turbidity	DO	Salinity	Other
<u>5/7/7</u>								
Method: <u>low flow</u>		<u>6.62</u>	<u>0.579</u>	<u>23.58</u>	<u>5.46</u>	<u>9.2</u>	<u>0.0</u>	
Monitor Reading (ppm): <u>0</u>		<u>6.58</u>	<u>0.500</u>	<u>23.69</u>	<u>3.47</u>	<u>4.67</u>	<u>0.0</u>	
Well Casing Diameter & Material		<u>6.47</u>	<u>0.487</u>	<u>23.91</u>	<u>2.84</u>	<u>9.42</u>	<u>0.0</u>	
Type: <u>2" PVC</u>		<u>6.39</u>	<u>0.474</u>	<u>23.65</u>	<u>1.90</u>	<u>8.96</u>	<u>0.0</u>	
Total Well Depth (TD): <u>13.60</u>								
Static Water Level (WL): <u>7.60</u>								
One Casing Volume (gal/L): <u>0.96</u>								
Start Purge (hrs): <u>0950</u>								
End Purge (hrs): <u>1035</u>								
Total Purge Time (min):								
Total Vol. Purged (gal/L):								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
<u>Total Pb</u>	<u>HNO₃</u>	<u>200 mL Poly</u>	<u>✓</u>

OBSERVATIONS / NOTES:

$TD - WL = X$ * Well lid is missing.
 $X \times .16 = \text{Volume}$
 $6 \times .16 = 0.96$

Circle if Applicable:

MS/MSD	Duplicate ID No.:	Signature(s):
		<u>J. Halfhill</u>

Project Site Name: **NAS Pensacola UST Site 21**
Project No.: _____

Sample ID No.: PEN21GW002

Sample Location: mw18

Sampled By: C. Odum

C.O.C. No.: _____

Type of Sample: _____

☒ Low Concentration

☐ High Concentration

☐ Domestic Well Data
☒ Monitoring Well Data
☐ Other Well Type: _____
☐ QA Sample Type: _____

SAMPLING DATA:

Date: 5-7-07	Color	pH	S.C.	Temp.	Turbidity	DO	ORP	
Time: 1140	Visual	Standard	mg/l	°C	NTU	mg/l	mV	Time
Method: low flow	clear	6.55	45.2	22.7	10.15	0.99	82	1140

PURGE DATA:

Date: 5-2-21	Volume	pH	S.C.	Temp. (C)	Turbidity	DO	ORP	Time
Method: low flow	1.0	6.84	38.2	22.9	2.14	2.23	96	1125
Monitor Reading (ppm):	2.0	6.68	43.2	22.7	23.9	1.47	94	1130
Well Casing Diameter & Material	3.0	6.60	44.7	22.7	17.9	1.13	91	1135
Type: 2.0" PVC	4.0	6.55	45.2	22.7	10.15	0.99	82	1140
Total Well Depth (TD): 13.6A								
Static Water Level (WL): 7.42								
One Casing Volume (gal/L): 3.4								
Start Purge (hrs): 1120								
End Purge (hrs):								
Total Purge Time (min):								
Total Vol. Purged (gal/L):								

$$\begin{array}{r} 5 \text{ L} \\ 2.45 \\ 2.45 \\ 2.45 \\ 2.45 \end{array}$$

SAMPLE COLLECTION INFORMATION:

[illegible]

NATURAL ATTENUATION PARAMETERS / OBSERVATIONS / NOTES

****Field Test Kit Results****

Dissolved Oxygen	
Ferrous Iron	
Hydrogen Sulfide	
Carbon Dioxide	
Alkalinity	
Sulfide	

Flow rate = 200 mL/min
 < 10 feet NW of fire plug

Circle if Applicable:

Signature(s):

MS/MSD	Duplicate ID No.:
--------	-------------------

TBD: To Be Determined

Project Site Name:	NASP Site 21	Sample ID No.:	PEN21GW1902
Project No.:	CTO 56 112G00583	Sample Location:	MW19
		Sampled By:	JH
<input type="checkbox"/> Domestic Well Data <input checked="" type="checkbox"/> Monitoring Well Data <input type="checkbox"/> Other Well Type: <input type="checkbox"/> QA Sample Type:		C.O.C. No.:	
		Type of Sample:	[X] Low Concentration [] High Concentration

SAMPLING DATA:								
Date:	Color (Visual)	pH (S.U.)	S.C. (mS/cm)	Temp. (°C)	Turbidity (NTU)	DO (mg/l)	Salinity (%)	Other
5-9-07		6.37	.462	23.77	7.23	0.00	0.0	
Time: 0835								
Method: low flow								

PURGE DATA:								
Date:	Volume	pH	S.C.	Temp.	Turbidity	DO	Salinity	Other time
5/9/07								
Method: low flow Peristaltic	6.0	6.24	.466	23.70	58.1	1.09	0.0	08:15
Monitor Reading (ppm):		6.25	.455	23.71	22.8	0.08	0.0	08:20
Well Casing Diameter & Material		6.30	.456	23.75	14.0	0.00	0.0	08:25
Type:		6.35	.462	23.81	8.85	0.00	0.0	08:30
Total Well Depth (TD): 13.17		6.37	.462	23.77	7.23	0.00	0.0	08:35
Static Water Level (WL): 8.38								
One Casing Volume(gal/L): 0.77								
Start Purge (hrs): 0815								
End Purge (hrs): 0835								
Total Purge Time (min):								
Total Vol. Purged (gal/L):								

SAMPLE COLLECTION INFORMATION:			
Analysis	Preservative	Container Requirements	Collected
Total Pb	HNO ₃	1 X 200ml plastic	X

OBSERVATIONS / NOTES:
Strong petro odor
01210 - 8.38 <hr/> 4.79
4.79 × 0.16 =

Circle if Applicable:	Signature(s):
MS/MSD Duplicate ID No.:	L. Halfhill

Project Site Name:	<u>NASP Site 21</u>	Sample ID No.:	<u>PEN21GW2002</u>
Project No.:	<u>CTO 56 112G00583</u>	Sample Location:	<u>MW20</u>
		Sampled By:	<u>SH</u>
<input type="checkbox"/> Domestic Well Data		C.O.C. No.:	<u></u>
<input checked="" type="checkbox"/> Monitoring Well Data		Type of Sample:	
<input type="checkbox"/> Other Well Type:	<u></u>	<input checked="" type="checkbox"/> Low Concentration	
<input type="checkbox"/> QA Sample Type:	<u></u>	<input type="checkbox"/> High Concentration	

SAMPLING DATA:

Date: 5-9-07	Color	pH	S.C.	Temp.	Turbidity	DO	Salinity	Other
Time: 0800	(Visual)	(S.U.)	(mS/cm)	(°C)	(NTU)	(mg/l)	(%)	
Method: low flow		6.21	549	23.73	5.15	0.00	0.0	

PURGE DATA:

Date:	Volume	pH	S.C.	Temp.	Turbidity	DO	Salinity	Other time
Method: low flow peristaltic	6.24	.570	23.66	29.5	0.13	0.0	0745	-69
Monitor Reading (ppm):	6.28	.547	23.69	11.2	0.00	0.0	0750	-75
Well Casing Diameter & Material	6.31	.551	23.72	7.48	0.13	0.0	0755	-79
Type:	6.31	.549	23.73	5.15	0.00	0.0	0800	+83
Total Well Depth (TD): 13.51								
Static Water Level (WL): 8.56								
One Casing Volume(gal/L): 0.79								
Start Purge (hrs): 0745								
End Purge (hrs): 0800								
Total Purge Time (min):								
Total Vol. Purged (gal/L):								

SAMPLE COLLECTION INFORMATION:[illegible]**OBSERVATIONS / NOTES:**

$$\begin{array}{r} 0.12541 \\ - 8.56 \\ \hline 4.95 \end{array} \quad \begin{array}{r} 4.95 \\ \times .16 \\ \hline \end{array}$$

Circle if Applicable:		Signature(s):
<input checked="" type="radio"/> MS/MSD PEN216W2002MS	<input checked="" type="radio"/> Duplicate ID No.: PEN216W2002D	J. Halphill

PEN21GW2002MD

Project Site Name: **NAS Pensacola UST Site 21**
Project No.: _____

Sample ID No.: **PEN21GW2102**

Sample Location: mw-20

Sampled By: C. D. D. D.

C.O.C. No.:

Type of Sample:

☒ Low Concentration

☐ High Concentration

- ☐ Domestic Well Data
☒ Monitoring Well Data
☐ Other Well Type: _____
☐ QA Sample Type: _____

SAMPLING DATA:

Date: 5-1-07	Color Visual	pH Standard	S.C. mS/cm	Temp. °C	Turbidity NTU	DO mg/l	ORP mV	Time
Time: 1358								
Method: Low flow								
	clear	6.05	9.6	22.3	7.2	4.44	43	1358

PURGE DATA:

Date: 5-1-07	Volume	pH	S.C.	Temp. (C)	Turbidity	DO	ORP	Time
Method: low flow	1.0	6.22	10.3	22.3	11.1	3.84	38	1342
Monitor Reading (ppm):	2.0	6.16	9.7	22.3	9.8	5.83	30	1348
Well Casing Diameter & Material	3.0	6.05	9.5	22.3	8.9	4.56	43	1353
Type: 2.0" PVC	4.0	6.05	9.6	22.3	7.2	4.44	43	1358
Total Well Depth (TD): 1358'								
Static Water Level (WL): 8.06								
One Casing Volume (gal) 3								
Start Purge (hrs): 1:338								
End Purge (hrs): 1:58								
Total Purge Time (min): 20								
Total Vol. Purged (gal) 4								

SAMPLE COLLECTION INFORMATION:

[illegible]

NATURAL ATTENUATION PARAMETERS / OBSERVATIONS / NOTES	
1	2
3	4
5	6
7	8
9	10
11	12
13	14
15	16
17	18
19	20
21	22
23	24
25	26
27	28
29	30
31	32
33	34
35	36
37	38
39	40
41	42
43	44
45	46
47	48
49	50
51	52
53	54
55	56
57	58
59	60
61	62
63	64
65	66
67	68
69	70
71	72
73	74
75	76
77	78
79	80
81	82
83	84
85	86
87	88
89	90
91	92
93	94
95	96
97	98
99	100

****Field Test Kit Results****

Dissolved Oxygen	_____
Ferrous Iron	_____
Hydrogen Sulfide	_____
Carbon Dioxide	_____
Alkalinity	_____
Sulfide	_____

Flow rate = 200 ml/min

Circle if Applicable:

Signature(s):

MS/MSD

Duplicate ID No.:

TBD: To Be Determined

Project Site Name: NAS Pensacola UST Site 21
Project No.: _____

Sample ID No.: **PEN21GW2302**

Sample Location: MW 23

Sampled By: JH

C.O.C. No.:

Type of Sample:

☒ Low Concentration

☐ High Concentration

- ☐ Domestic Well Data
☒ Monitoring Well Data
☐ Other Well Type: _____
☐ QA Sample Type: _____

SAMPLING DATA:

Date: 5-7-07	Color Visual	pH	S.C.	Temp.	Turbidity	DO	ORP	Time	salinity
Time: 14:06		Standard	mS/cm	°C	NTU	mg/l	mV		
Method: low flow		6.47	0.599	23.00	2.02	10.00	-144		

PURGE DATA:[illegible]**SAMPLE COLLECTION INFORMATION:**[illegible][illegible]

****Field Test Kit Results****

Dissolved Oxygen	
Ferrous Iron	
Hydrogen Sulfide	
Carbon Dioxide	
Alkalinity	
Sulfide	

Total well depth and static water level could not be found with water level indicator due to organics in the well

Circle if Applicable:

Signature(s):

MS/MSD

Duplicate ID No.:

TBD: To Be Determined

Project Site Name: NAS Pensacola UST Site 21
Project No.: _____

Sample ID No.: **PEN21GW2402**

Sample Location: mc, 24

Sampled By: C. D. 2

C.O.C. No.: _____

Type of Sample: _____

[X] Low Concentration

☐ High Concentration

- ☐ Domestic Well Data
☒ Monitoring Well Data
☐ Other Well Type: _____
☐ QA Sample Type: _____

SAMPLING DATA:

Date: 5-9-07	Color	pH	S.C.	Temp.	Turbidity	DO	ORP	
Time: 0858	Visual	Standard	mg/L	°C	NTU	mg/l	mV	Time
Method: Low flow	clear	6.50	46.9	24.39	5.4	0.06	-133	0.00

PURGE DATA:

Date:	Volume	pH	S.C.	Temp. (C)	Turbidity	DO	ORP	Time
Method: <u>low flow</u>	<u>1.0 L</u>	<u>6.48</u>	<u>50.0</u>	<u>24.41</u>	<u>13.6</u>	<u>2.04</u>	<u>-103</u>	<u>0848</u>
Monitor Reading (ppm):	<u>2.0 L</u>	<u>6.50</u>	<u>47.2</u>	<u>24.42</u>	<u>5.8</u>	<u>0.06</u>	<u>-124</u>	<u>0853</u>
Well Casing Diameter & Material	<u>3.0 L</u>	<u>6.50</u>	<u>46.9</u>	<u>24.39</u>	<u>8.1</u>	<u>0.06</u>	<u>-133</u>	<u>0858</u>
Type: <u>2.0" PVC</u>								
Total Well Depth (TD): <u>13.00</u>								
Static Water Level (WL): <u>8.44</u>								
One Casing Volume (gal/L): <u>0.275</u>								
Start Purge (hrs): <u>0843</u>								
End Purge (hrs): <u>0858</u>								
Total Purge Time (min):								
Total Vol. Purged (gal/L):								

SWL
8.49
8.49
8.49

SAMPLE COLLECTION INFORMATION:[illegible]

NATURAL ATTENUATION PARAMETERS / OBSERVATIONS / NOTES

****Field Test Kit Results****

Dissolved Oxygen

Ferrous Iron

Hydrogen Sulfide

Carbon Dioxide

Alkalinity

Sulfide

Flow rate = 20 ml/min

Circle if Applicable:

Signature(s):

MS/MSD

Duplicate ID No.:

TBD: To Be Determined

Project Site Name: NAS Pensacola UST Site 21
Project No.: _____

Sample ID No.: **PEN21GW2502**

Sample Location: MW25

Sampled By: C. Nelson

C.O.C. No.: _____

- ☐ Domestic Well Data
☒ Monitoring Well Data
☐ Other Well Type: _____
☐ QA Sample Type: _____

- Type of Sample: _____
☒ Low Concentration
☐ High Concentration

SAMPLING DATA:

Date: 5-9-07	Color	pH	S.C.	Temp.	Turbidity	DO	ORP	SWC
Time: 0942	Visual	Standard	mS/cm	°C	NTU	mg/l	mV	Time
Method: Low flow		6.71	66.7	23.91	4.2	0.33	-13	8.09

PURGE DATA:

Date:	Volume	pH	S.C.	Temp. (C)	Turbidity	DO	ORP	Time
Method:	1.0L	6.64	68.2	24.13	23.7	0.54	2	0922
Monitor Reading (ppm):	2.0L	6.68	67.4	24.02	8.2	0.40	-6	0927
Well Casing Diameter & Material	3.0L	6.70	66.8	23.88	3.5	0.33	-4	0932
Type:	4.0L	6.71	66.6	23.91	3.1	0.30	-12	0937
Total Well Depth (TD):	5.0L	6.71	66.7	23.91	4.2	0.33	-13	0942
Static Water Level (WL):								
One Casing Volume(gal/L):								
Start Purge (hrs):								
End Purge (hrs):								
Total Purge Time (min):								
Total Vol. Purged (gal/L):								

SAMPLE COLLECTION INFORMATION:[illegible][illegible]

****Field Test Kit Results****

Dissolved Oxygen	
Ferrous Iron	
Hydrogen Sulfide	
Carbon Dioxide	
Alkalinity	
Sulfide	

Circle if Applicable:

Signature(s):

MS/MSD

Duplicate ID No.:

TBD: To Be Determined

Project Site Name:		NASP Site 21						
Project No.:		CTO 56 112G00583						
<input type="checkbox"/> Domestic Well Data <input checked="" type="checkbox"/> Monitoring Well Data <input type="checkbox"/> Other Well Type: <input type="checkbox"/> QA Sample Type:		Sample ID No.: PEN21 MW31R01 Sample Location: Pen 21 MW31R Sampled By: J.D. Spalding C.O.C. No.: Type of Sample: <input checked="" type="checkbox"/> Low Concentration <input type="checkbox"/> High Concentration						
SAMPLING DATA:								
Date: 5-10-07	Color (Visual)	pH (S.U.)	S.C. (mS/cm)	Temp. (^o C)	Turbidity (NTU)	DO (mg/l)	Salinity (%)	Other
Time: 1120								
Method: Low Flow Peristaltic		6.64	79.7	23.22	7.53	0.00	0.0	
PURGE DATA:								
Date: 5-10-07	Volume	pH	S.C.	Temp.	Turbidity	DO	Salinity	Other
Method: Peristaltic low flow	Ø	6.71	72.8	23.49	388	1.14	0.0	250 mL/min
Monitor Reading (ppm):	1.25L	6.64	78.8	23.10	71.5	.08	0.0	250 mL/min
Well Casing Diameter & Material	1.875L	6.65	79.6	23.24	28.0	0.00	0.0	125 mL/min
Type: 3/4" PVC	2.0L	6.64	79.7	23.22	8.03	0.00	0.0	<100 mL/min
Total Well Depth (TD): 14.23	2.2L	6.64	79.7	23.22	7.58	0.00	0.0	<100 mL/min
Static Water Level (WL): 5.95								
One Casing Volume(gal/L): .176al								
Start Purge (hrs): 1100								
End Purge (hrs): 1120								
Total Purge Time (min): 20 min								
Total Vol. Purged (gal/L): 2.5L								
SAMPLE COLLECTION INFORMATION:								
Analysis	Preservative	Container Requirements					Collected	
Total Lead	None	1 x 125 mL Poly					X	
OBSERVATIONS / NOTES:								
*No preservative indicated on chain of custody								
Circle if Applicable:						Signature(s):		
MS/MSD	Duplicate ID No.:							



GROUNDWATER SAMPLE LOG SHEET

Page 1 of 1

Project Site Name: NASP Site 21
 Project No.: CTO 56 112G00583

- ☐ Domestic Well Data
☒ Monitoring Well Data
☐ Other Well Type: _____
☐ QA Sample Type: _____

Sample ID No.: PEN216W3802
 Sample Location: Sited 1
 Sampled By: JR
 C.O.C. No.: _____
 Type of Sample:
☒ Low Concentration
☐ High Concentration

SAMPLING DATA:

Date:	Color	pH	S.C.	Temp.	Turbidity	DO	Salinity	Other
<u>5/10/07</u>	(Visual)	(S.U.)	(mS/cm)	(°C)	(NTU)	(mg/l)	(%)	
Time: <u>0950</u>								
Method: <u>low flow</u>	<u>clear</u>	<u>5.29</u>	<u>.142</u>	<u>23.99</u>	<u>34.4</u>	<u>9.89</u>	<u>0.0</u>	<u>21</u>

PURGE DATA:

Date:	Volume	pH	S.C.	Temp.	Turbidity	DO	Salinity	Other
<u>5/10/07</u>								
Method: <u>low flow</u>	<u>Initial</u>	<u>5.63</u>	<u>.192</u>	<u>24.55</u>	<u>110</u>	<u>4.22</u>	<u>0.0</u>	<u>-4</u>
Monitor Reading (ppm): <u>0</u>	<u>0914</u>	<u>5.34</u>	<u>.140</u>	<u>24.09</u>	<u>44.3</u>	<u>2.96</u>	<u>0.0</u>	<u>19</u>
Well Casing Diameter & Material	<u>0921</u>	<u>5.29</u>	<u>.143</u>	<u>23.82</u>	<u>38.0</u>	<u>3.47</u>	<u>0.0</u>	<u>23</u>
Type: <u>1.25" PVC</u>	<u>0927</u>	<u>5.25</u>	<u>.140</u>	<u>23.64</u>	<u>36.3</u>	<u>9.22</u>	<u>0.0</u>	<u>26</u>
Total Well Depth (TD): <u>12.20</u>	<u>0935</u>	<u>5.29</u>	<u>.142</u>	<u>23.72</u>	<u>32.7</u>	<u>10.01</u>	<u>0.0</u>	<u>21</u>
Static Water Level (WL): <u>8.65</u>	<u>0947</u>	<u>5.29</u>	<u>.142</u>	<u>23.99</u>	<u>34.4</u>	<u>9.89</u>	<u>0.0</u>	<u>21</u>
One Casing Volume (gal): <u>24</u>								
Start Purge (hrs): <u>0906</u>								
End Purge (hrs): <u>0947</u>								
Total Purge Time (min):								
Total Vol. Purged (gal/L):								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
<u>BTEX</u>	<u>HCl</u>	<u>40mL VOA x 3</u>	<u>✓</u>
<u>PAH</u>	<u>—</u>	<u>1L Amber x 2</u>	<u>✓</u>
<u>TRPH</u>	<u>HCl</u>	<u>1L Amber x 2</u>	<u>✓</u>

OBSERVATIONS / NOTES:

* Turbidity increased on last readings, sampled @ 0950

Circle if Applicable:

MS/MSD

Duplicate ID No.:

Signature(s):

Project Site Name: NASP Site 21
Project No.: CTO 56 112G00583

Sample ID No.: PEN 216W4/02

Sample Location: MW41

Sampled By: JH

C.O.C. No.:

Type of Sample: _____

☐ Domestic Well Data
☒ Monitoring Well Data

☐ Other Well Type: _____

QA Sample Type: _____

[X] Low Concentration

☐ High Concentration

SAMPLING DATA:

Date: 5-7-07	Color	pH	S.C.	Temp.	Turbidity	DO	Salinity	Other
Time: 15:17	(Visual)	(S.U.)	(mS/cm)	(°C)	(NTU)	(mg/l)	(%)	
Method: low flow		6.24	0.421	23.46	11.2	10.58	0.0	

PURGE DATA:

Date: 5/7/07	Volume	pH	S.C.	Temp.	Turbidity	DO	Salinity	Other time
Method: low flow		6.46	0.527	24.85	43.7	11.04	0.0	14:52
Monitor Reading (ppm):		6.36	0.441	23.85	24.0	11.41	0.0	15:00
Well Casing Diameter & Material		6.31	0.424	23.54	14.2	10.83	0.0	15:08
Type: 1.25" PVC		6.24	0.421	23.46	11.2	10.58	0.0	15:15
Total Well Depth (TD): 12.5'								
Static Water Level (WL): 7.0'								
One Casing Volume(gal/L): 0.33								
Start Purge (hrs): 1452								
End Purge (hrs): 1515								
Total Purge Time (min):								
Total Vol. Purged (gal/L):								

SAMPLE COLLECTION INFORMATION:[illegible]**OBSERVATIONS / NOTES:**
$$0.06 \times 5.5 =$$
Circle if Applicable:

MS/MSD

Duplicate ID No.:

Signature(s):

J. Hoffbill

Project Site Name: **NAS Pensacola UST Site 21**
Project No.: _____

Sample ID No.: **PEN21GW4202**

Sample Location: MW42

Sampled By: C. Delmon

C.O.C. No.:

Type of Sample:

[X] Low Concentration

[] High Concentration

- ☐ Domestic Well Data
☒ Monitoring Well Data
☐ Other Well Type: _____
☐ QA Sample Type: _____

SAMPLING DATA:

Date: 5-7-07	Color	pH	S.C.	Temp.	Turbidity	DO	ORP	
Time: 1607	Visual	Standard	mS/cm	°C	NTU	mg/l	mV	Time
Method: low flow		6.51	27.3	22.5	15.7	2.33	61	1607

PURGE DATA:

Date:	Volume	pH	S.C.	Temp. (C)	Turbidity	DO	ORP	Time
Method: low flow	1.5	6.58	26.8	22.5	23.3	2.98	62	1552
Monitor Reading (ppm):	3.0	6.55	28.4	22.5	30.1	2.98	59	1557
Well Casing Diameter & Material	4.5	6.52	27.6	22.5	22.5	2.55	59	1602
Type: 1.25" PVC	6.0	6.51	27.3	22.5	15.1	2.33	61	1607
Total Well Depth (TD): 12.52								
Static Water Level (WL): 7.89								
One Casing Volume (gal/L): 106								
Start Purge (hrs): 1547								
End Purge (hrs): 1607								
Total Purge Time (min):								
Total Vol. Purged (gal/L):								

SWL
7.93
7.93
7.93
7.93

SAMPLE COLLECTION INFORMATION:[illegible]

NATURAL ATTENUATION PARAMETERS / OBSERVATIONS / NOTES

****Field Test Kit Results****

Dissolved Oxygen	_____
Ferrous Iron	_____
Hydrogen Sulfide	_____
Carbon Dioxide	_____
Alkalinity	_____
Sulfide	_____

$$\text{flow rate} = 300 \text{ mL/min}$$
Circle if Applicable:

Signature(s):

MS/MSD

Duplicate ID No.:

TBD: To Be Determined

nw-47- unable to locate



GROUNDWATER SAMPLE LOG SHEET

Page 1 of 1

Project Site Name: NAS Pensacola UST Site 21
 Project No.: _____

- ☐ Domestic Well Data
☒ Monitoring Well Data
☐ Other Well Type: _____
☐ QA Sample Type: _____

Sample ID No.: PEN21GW4304
 Sample Location: nw43
 Sampled By: _____
 C.O.C. No.: _____
 Type of Sample:
☒ Low Concentration
☐ High Concentration

SAMPLING DATA:

Date: <u>5-9-07</u>	Color	pH	S.C.	Temp.	Turbidity	DO	ORP	
Time: <u>1650</u>	Visual	Standard	mS/cm	°C	NTU	mg/l	mV	Time
Method: <u>Low Flow</u>		<u>6.74</u>	<u>0.145</u>	<u>23.19</u>	<u>1.31</u>	<u>0.00</u>	<u>-348</u>	<u>1650</u>

PURGE DATA:

Date: <u>5-9-07</u>	Volume	pH	S.C.	Temp. (C)	Turbidity	DO	ORP	Time
Method: <u>low flow</u>	<u>1.02</u>	<u>6.82</u>	<u>0.146</u>	<u>23.44</u>	<u>40.7</u>	<u>0.38</u>	<u>-303</u>	<u>1622</u>
Monitor Reading (ppm):	<u>3.0</u>	<u>6.82</u>	<u>0.147</u>	<u>23.31</u>	<u>10.21</u>	<u>0.00</u>	<u>-340</u>	<u>1632</u>
Well Casing Diameter & Material	<u>4.0</u>	<u>6.80</u>	<u>0.147</u>	<u>23.21</u>	<u>4.41</u>	<u>0.00</u>	<u>-341</u>	<u>1637</u>
Type: <u>1.25" PVC</u>	<u>6.0</u>	<u>6.74</u>	<u>0.145</u>	<u>23.19</u>	<u>1.31</u>	<u>0.00</u>	<u>-348</u>	<u>1650</u>
Total Well Depth (TD): <u>1264</u>								
Static Water Level (WL): <u>8.43</u>								
One Casing Volume(gal/L):								
Start Purge (hrs): <u>1617</u>								
End Purge (hrs): <u>1650</u>								
Total Purge Time (min):								
Total Vol. Purged (gal/L):								

SUL
 8.51
 8.51
 8.51
 8.51

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
SW-846 6010B - Total Lead	HNO3	1 - <u>200ml</u> Plastic	YES / NO
<u>PAH</u>	<u>—</u>	<u>2 x 16 Amber</u>	<u>Yes</u>
<u>TRPH</u>	<u>HCl</u>	<u>2 x 16 Amber</u>	<u>Yes</u>
<u>BTEX</u>	<u>HCl</u>	<u>3 x 40 ml glass vial</u>	<u>Yes</u>

NATURAL ATTENUATION PARAMETERS / OBSERVATIONS / NOTES

Field Test Kit Results

Dissolved Oxygen _____
 Ferrous Iron _____
 Hydrogen Sulfide _____
 Carbon Dioxide _____
 Alkalinity _____
 Sulfide _____

Circle if Applicable:

MS/MSD

Duplicate ID No.: _____

Signature(s):

TBD: To Be Determined



Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Page 1 of 1

Project Site Name: NAS Pensacola UST Site 21
Project No.: _____

- ☐ Domestic Well Data
☒ Monitoring Well Data
☐ Other Well Type: _____
☐ QA Sample Type: _____

Sample ID No.: PEN21GW4403
Sample Location: MW/44
Sampled By: C. Odum
C.O.C. No.: _____
Type of Sample:
☒ Low Concentration
☐ High Concentration

SAMPLING DATA:

Date: <u>5-7-7</u>	Color	pH	S.C.	Temp.	Turbidity	DO	ORP	
Time: <u>1053</u>	Visual	Standard	mS/cm	°C	NTU	mg/l	mV	Time
Method: <u>low flow</u>		<u>6.72</u>	<u>46.8</u>	<u>21.9</u>	<u>8.6</u>	<u>2.11</u>	<u>36</u>	<u>1053</u>

PURGE DATA:

Date: <u>5-7-09</u>	Volume	pH	S.C.	Temp. (C)	Turbidity	DO	ORP	Time
Method: <u>low flow</u>	<u>1.0</u>	<u>6.79</u>	<u>47.3</u>	<u>22.0</u>	<u>17.0</u>	<u>2.25</u>	<u>36</u>	<u>1043</u>
Monitor Reading (ppm):	<u>2.0</u>	<u>6.73</u>	<u>47.4</u>	<u>21.9</u>	<u>14.7</u>	<u>2.19</u>	<u>35</u>	<u>1048</u>
Well Casing Diameter & Material Type: <u>1.25" PVC</u>	<u>3.0</u>	<u>6.72</u>	<u>46.8</u>	<u>21.9</u>	<u>8.6</u>	<u>2.11</u>	<u>36</u>	<u>1053</u>
Total Well Depth (TD): <u>13.20</u>								
Static Water Level (WL): <u>6.72</u>								
One Casing Volume (gal): <u>1.48</u>								
Start Purge (hrs): <u>1038</u>								
End Purge (hrs): <u>1053</u>								
Total Purge Time (min):								
Total Vol. Purged (gal/L):								

SWL
6.75
6.76
6.76

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
SW-846 6010B - Total Lead	HNO3	<u>200ml</u> 1 - #1 Plastic	<u>YES/NO</u>

NATURAL ATTENUATION PARAMETERS / OBSERVATIONS / NOTES

Field Test Kit Results

Dissolved Oxygen _____
Ferrous Iron _____
Hydrogen Sulfide _____
Carbon Dioxide _____
Alkalinity _____
Sulfide _____

Flow rate = 200ml/min

Circle if Applicable:

MS/MSD

Duplicate ID No.:

Signature(s):

TBD: To Be Determined



Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Page ___ of ___

Project Site Name: UASP Site 21
 Project No.: CJO 56 112600583

Sample ID No.: PEN216W46R01Sample Location: MW 46RSampled By: J.D. Spalding

C.O.C. No.: _____

Type of Sample:

- ☐ Domestic Well Data
☒ Monitoring Well Data
☐ Other Well Type: _____
☐ QA Sample Type: _____

☒ Low Concentration☐ High Concentration

SAMPLING DATA:

Date: <u>5-10-07</u>	Color	pH	S.C.	Temp.	Turbidity	DO	Salinity	Other
Time: <u>1630</u>	(Visual)	(S.U.)	(mS/cm)	(°C)	(NTU)	(mg/l)	(%)	
Method: <u>Low Flow Peristaltic</u>	<u>Clear</u>	<u>6.67</u>	<u>61.1</u>	<u>23.22</u>	<u>3.29</u>	<u>0.00</u>	<u>0.0</u>	

PURGE DATA:

Date: <u>5-10-07</u>	Volume	pH	S.C.	Temp.	Turbidity	DO	Salinity	Other
Method: <u>Low Flow Peristaltic</u>		<u>6.52</u>	<u>51.0</u>	<u>23.52</u>	<u>210.0</u>	<u>1.09</u>	<u>0.0</u>	
Monitor Reading (ppm):		<u>6.67</u>	<u>60.0</u>	<u>23.25</u>	<u>97.7</u>	<u>0.00</u>	<u>0.0</u>	
Well Casing Diameter & Material		<u>6.69</u>	<u>61.0</u>	<u>23.27</u>	<u>10.18</u>	<u>0.00</u>	<u>0.0</u>	
Type: <u>3/4" PVC</u>		<u>6.67</u>	<u>61.1</u>	<u>23.22</u>	<u>3.29</u>	<u>0.00</u>	<u>0.0</u>	
Total Well Depth (TD): <u>14.40</u>	14.40							
Static Water Level (WL): <u>8.11</u>	8.11							
One Casing Volume (gal/L):								
Start Purge (hrs): <u>1600</u>								
End Purge (hrs): <u>1630</u>								
Total Purge Time (min):								
Total Vol. Purged (gal/L):								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
<u>BTEX</u>	<u>HCL</u>	<u>3x40mL Glass</u>	<u>X</u>
<u>PAH</u>	<u>Cool 4°C</u>	<u>2x1L Amber</u>	<u>X</u>
<u>TRPH</u>	<u>HCL</u>	<u>2x2L Amber</u>	<u>X</u>
<u>Total lead</u>	<u>HNO₃</u>	<u>1x125mL Poly</u>	<u>X</u>

OBSERVATIONS / NOTES:

Circle if Applicable:		Signature(s):
MS/MSD	Duplicate ID No.:	

Project Site Name: NASP Site 21

Project No.: CTO 56 112G00583

Sample ID No.: PEN21GW5302

Sample Location: MW 53

Sampled By: SH

C.O.C. No.: _____

Type of Sample: _____

[X] Low Concentration

☐ High Concentration

Domestic Well Data

☒ Monitoring Well Data

[] Other Well Type:

QA Sample Type:

SAMPLING DATA:

Date: 5/9/07	Color	pH	S.C.	Temp.	Turbidity	DO	Salinity	Other
Time: 15:35	(Visual)	(S.U.)	(mS/cm)	(°C)	(NTU)	(mg/l)	(%)	ORP
Method: low flow		6.66	0.261	23.67	6.61	12.34	0.0	-126

PURGE DATA:

Date:	Volume	pH	S.C.	Temp.	Turbidity	DO	Salinity	Other
Method: Low Flow	1520	6.82	0.245	25.79	17.0	12.82	0.0	-61
Monitor Reading (ppm):	1525	6.61	0.269	24.44	8.96	12.81	0.0	-95
Well Casing Diameter & Material	1530	6.66	0.248	23.83	7.56	12.64	0.0	-120
Type: 1" PVC	1535	6.66	0.261	23.67	6.61	12.34	0.0	-126
Total Well Depth (TD): 12.09								
Static Water Level (WL): 6.89								
One Casing Volume (gal): 31								
Start Purge (hrs): 1520								
End Purge (hrs): 1535								
Total Purge Time (min):								
Total Vol. Purged (gal/L):								

SAMPLE COLLECTION INFORMATION:[illegible]**OBSERVATIONS / NOTES:**[illegible]**Circle if Applicable:**

MS/MSD

Duplicate ID No.:

Signature(s):

J. Halfhill



GROUNDWATER SAMPLE LOG SHEET

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Project Site Name: NASP Site 21
 Project No.: CTO 56 112G00583

- ☐ Domestic Well Data
☒ Monitoring Well Data
☐ Other Well Type: _____
☐ QA Sample Type: _____

Sample ID No.: PEN21GW5102
 Sample Location: Site 21
 Sampled By: JB
 C.O.C. No.: _____
 Type of Sample:
☒ Low Concentration
☐ High Concentration

SAMPLING DATA:

ORP

Date:	Color	pH	S.C.	Temp.	Turbidity	DO	Salinity	Other
5/10/07	(Visual)	(S.U.)	(mS/cm)	(°C)	(NTU)	(mg/l)	(%)	
Time: 0811								
Method: low flow	clear	6.67	.535	22.99	5.76	0.00	0.0	-14

PURGE DATA:

ORP

Date:	Volume	pH	S.C.	Temp.	Turbidity	DO	Salinity	Other
5/10/07								
Method: low flow	Initial	7.43	.555	23.00	54.3	0.33	0.0	-44
Monitor Reading (ppm): 0	0800	6.71	.537	22.96	12.3	0.00	0.0	-19
Well Casing Diameter & Material	0805	6.70	.536	22.96	10.38	0.00	0.0	-17
Type: 1" PVC	0810	6.67	.535	22.99	5.76	0.00	0.0	-14
Total Well Depth (TD): 12.60								
Static Water Level (WL): 7.13								
One Casing Volume (gal): .33								
Start Purge (hrs): 0746								
End Purge (hrs): 0810								
Total Purge Time (min): 24								
Total Vol. Purged (gal/L):								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
BTEX	HCl	40ml VOA x 3	✓
PAH	—	1L Amber x 2	✓
TRPH	HCl	1L Amber x 2	✓

OBSERVATIONS / NOTES:

Circle if Applicable:

Signature(s):

MS/MSD

Duplicate ID No.:



GROUNDWATER SAMPLE LOG SHEET

Page 1 of 1

Project Site Name: NASP Site 21
 Project No.: CTO 56 112G00583

- ☐ Domestic Well Data
☒ Monitoring Well Data
☐ Other Well Type: _____
☐ QA Sample Type: _____

Sample ID No.: PEN21GW5202
 Sample Location: Site 21
 Sampled By: JH
 C.O.C. No.: _____
 Type of Sample:
☒ Low Concentration
☐ High Concentration

SAMPLING DATA:

Date: <u>5/10/07</u>	Color	pH	S.C.	Temp.	Turbidity	DO	Salinity	Other
Time: <u>0820</u>	(Visual)	(S.U.)	(mS/cm)	(°C)	(NTU)	(mg/l)	(%)	<u>ORP</u>
Method: <u>low flow</u>	<u>clear</u>	<u>5.69</u>	<u>0.310</u>	<u>22.31</u>	<u>1.74</u>	<u>11.36</u>	<u>0.0</u>	<u>-57</u>

PURGE DATA:

Date: <u>5/10/07</u>	Volume	pH	S.C.	Temp.	Turbidity	DO	Salinity	Other <u>ORP</u>
Method: <u>low flow</u>	<u>0755</u>	<u>5.34</u>	<u>0.427</u>	<u>22.73</u>	<u>55.4</u>	<u>9.95</u>	<u>0.0</u>	<u>32</u>
Monitor Reading (ppm): <u>0</u>	<u>0800</u>	<u>5.49</u>	<u>0.323</u>	<u>22.41</u>	<u>10.83</u>	<u>10.54</u>	<u>0.0</u>	<u>-17</u>
Well Casing Diameter & Material	<u>0805</u>	<u>5.61</u>	<u>0.318</u>	<u>22.39</u>	<u>4.93</u>	<u>5.14</u>	<u>0.0</u>	<u>-44</u>
Type: <u>1" PVC</u>	<u>0810</u>	<u>5.65</u>	<u>0.312</u>	<u>22.39</u>	<u>2.90</u>	<u>10.65</u>	<u>0.0</u>	<u>-52</u>
Total Well Depth (TD): <u>12.43</u>	<u>0815</u>	<u>5.69</u>	<u>0.310</u>	<u>22.31</u>	<u>1.74</u>	<u>11.36</u>	<u>0.0</u>	<u>-57</u>
Static Water Level (WL): <u>8.25</u>								
One Casing Volume(gal/L): <u>0.25</u>								
Start Purge (hrs): <u>0755</u>								
End Purge (hrs): <u>0815</u>								
Total Purge Time (min): <u>20</u>								
Total Vol. Purged (gal/L):								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
<u>BTEX</u>	<u>HCl</u>	<u>40 mL VOA x 3</u>	<u>✓</u>
<u>PAH</u>	<u>—</u>	<u>1 L Amber x 2</u>	<u>✓</u>
<u>TRPH</u>	<u>HCl</u>	<u>1 L Amber x 2</u>	<u>✓</u>

OBSERVATIONS / NOTES:

23413
- 8.25
4.18

0.06 x 4.18 = 0.25

Circle if Applicable:

Signature(s):

MS/MSD

Duplicate ID No.:

Project Site Name:		NASP Site 21		Sample ID No.:		PENAI6W5482	
Project No.:		CTO 56 112G00583		Sample Location:		Site 21	
				Sampled By:		JR	
<input type="checkbox"/> Domestic Well Data <input checked="" type="checkbox"/> Monitoring Well Data <input type="checkbox"/> Other Well Type: <input type="checkbox"/> QA Sample Type:				C.O.C. No.:			
				Type of Sample:		<input checked="" type="checkbox"/> Low Concentration <input type="checkbox"/> High Concentration	

SAMPLING DATA:								
Date:	Color	pH	S.C.	Temp.	Turbidity	DO	Salinity	Other
(Visual)	(S.U.)	(mS/cm)	(°C)	(NTU)	(mg/l)	(%)		
5/10/07		7.05	.610	25.97	37.9	13.55	0.0	-169
Time: 1302-1423								
Method: low flow								

PURGE DATA:								
Date:	Volume	pH	S.C.	Temp.	Turbidity	DO	Salinity	Other
(Visual)	(S.U.)	(mS/cm)	(°C)	(NTU)	(mg/l)	(%)		
5/10/07	Initial	6.08	.581	25.29	239	7.09	0.0	-95
Method: low flow								
Monitor Reading (ppm):	1112	6.58	.585	24.81	154	10.89	0.0	-146
Well Casing Diameter & Material	1114	6.69	.589	24.50	142	11.74	0.0	-155
Type: 3/4 PVC	1120	6.75	.586	25.02	121	11.76	0.0	-151
Total Well Depth (TD): 14.39	1130	6.79	.592	24.84	108.1	5.56	0.0	-146
Static Water Level (WL): 7.10	1140	6.90	.596	25.39	91.5	11.09	0.0	-161
One Casing Volume (gal/L): .15	1150	6.94	.601	25.36	73.5	11.67	0.0	-162
Start Purge (hrs): 1100	1205	6.98	.598	25.59	62.2	12.30	0.0	-165
End Purge (hrs): 1255	1220	7.00	.603	26.03	51.1	12.12	0.0	-169
Total Purge Time (min):	1245	6.93	.599	26.01	38.0	10.19	0.0	-168
Total Vol. Purged (gal/L):	1255	7.05	.610	25.97	37.9	13.55	0.0	-169

SAMPLE COLLECTION INFORMATION:			
Analysis	Preservative	Container Requirements	Collected
Total Pb	None	200 mL Poly X1	✓

OBSERVATIONS / NOTES:
*No preservative, indicated on chain of custody

Circle if Applicable:		Signature(s):
MS/MSD	Duplicate ID No.:	

Project Site Name:	NASP Site 21	Sample ID No.: PEN2/GW 600	
Project No.:	CTO 56 112G00583	Sample Location:	MN/60
<input type="checkbox"/> Domestic Well Data		Sampled By:	JH
<input checked="" type="checkbox"/> Monitoring Well Data		C.O.C. No.:	
<input type="checkbox"/> Other Well Type:		Type of Sample:	
<input type="checkbox"/> QA Sample Type:		<input checked="" type="checkbox"/> Low Concentration	
		<input type="checkbox"/> High Concentration	

SAMPLING DATA:								
Date:	Color	pH	S.C.	Temp.	Turbidity	DO	Salinity	Other
(Visual)	(S.U.)	(mS/cm)	(°C)	(NTU)	(mg/l)	(%)		
5/8/07		5.33	0.256	24.06	10.77	11.78	0.0	
Time: 15:05								
Method: low flow								

PURGE DATA:								
Date:	Volume	pH	S.C.	Temp.	Turbidity	DO	Salinity	Other Time
5/8/07		5.88	0.276	26.48	30.1	12.77	0.0	14:33
Method: low flow Peristaltic		5.50	0.257	24.23	30.4	12.25	0.0	14:38
Monitor Reading (ppm):		5.35	0.257	24.12	18.4	12.30	0.0	14:48
Well Casing Diameter & Material		5.32	0.256	24.16	13.8	5.33	0.0	14:55
Type:		5.33	0.256	24.06	10.77	11.78	0.0	15:02
Total Well Depth (TD): 12.50								
Static Water Level (WL): 7.30								
One Casing Volume (gal/L): 1.32								
Start Purge (hrs): 1433								
End Purge (hrs): 1502								
Total Purge Time (min):								
Total Vol. Purged (gal/L):								

SAMPLE COLLECTION INFORMATION:			
Analysis	Preservative	Container Requirements	Collected
PAH	-	2 x 1L Amber	X
TRPH	HCl	2 x 1L Amber	X
BTEX	HCl	3 x 40ml vial	X

OBSERVATIONS / NOTES:	

Circle if Applicable:		Signature(s):
MS/MSD	Duplicate ID No.:	



GROUNDWATER SAMPLE LOG SHEET

Page 1 of 1

Project Site Name: NASP Site 21
 Project No.: CTO 56 112G00583

- ☐ Domestic Well Data
☒ Monitoring Well Data
☐ Other Well Type: _____
☐ QA Sample Type: _____

Sample ID No.: PEA21GW6101
 Sample Location: Site 21
 Sampled By: JH
 C.O.C. No.: _____
 Type of Sample:
☒ Low Concentration
☐ High Concentration

SAMPLING DATA:

Date:	Color	pH	S.C.	Temp.	Turbidity	DO	Salinity	Other
<u>5/8/07</u>	(Visual)	(S.U.)	(mS/cm)	(°C)	(NTU)	(mg/l)	(%)	
Time: <u>1200</u>								
Method: <u>Low Flow</u>		<u>6.61</u>	<u>0.535</u>	<u>23.02</u>	<u>19.5</u>	<u>11.23</u>	<u>0.0</u>	

PURGE DATA:

Date:	Volume	pH	S.C.	Temp.	Turbidity	DO	Salinity	Other time
<u>5/8/07</u>								
Method: <u>Low Flow</u>		<u>6.65</u>	<u>0.577</u>	<u>23.76</u>	<u>920</u>	<u>11.60</u>	<u>0.0</u>	<u>1130</u>
Monitor Reading (ppm): <u>0</u>		<u>6.67</u>	<u>0.003</u>	<u>23.38</u>	<u>83.9</u>	<u>11.44</u>	<u>0.0</u>	<u>1135</u>
Well Casing Diameter & Material		<u>6.64</u>	<u>0.574</u>	<u>22.77</u>	<u>34.3</u>	<u>5.47</u>	<u>0.0</u>	<u>1140</u>
Type: <u>3/4" PVC</u>		<u>6.62</u>	<u>0.556</u>	<u>22.87</u>	<u>26.3</u>	<u>3.54</u>	<u>0.0</u>	<u>1145</u>
Total Well Depth (TD): <u>14.45</u>		<u>6.63</u>	<u>0.551</u>	<u>22.51</u>	<u>21.3</u>	<u>10.42</u>	<u>0.0</u>	<u>1150</u>
Static Water Level (WL): <u>8.07</u>		<u>6.61</u>	<u>0.535</u>	<u>23.02</u>	<u>19.5</u>	<u>11.23</u>	<u>0.0</u>	<u>1200</u>
One Casing Volume (gal/L): <u>13</u>								
Start Purge (hrs): <u>1130</u>								
End Purge (hrs): <u>1200</u>								
Total Purge Time (min):								
Total Vol. Purged (gal/L):								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
<u>PAH</u>	<u>-</u>	<u>2 x 16 Amber</u>	<u>x</u>
<u>TRPH</u>	<u>HCl</u>	<u>2 x 12 Amber</u>	<u>x</u>
<u>BTEX</u>	<u>HCl</u>	<u>3 x 40ml vial</u>	<u>x</u>

OBSERVATIONS / NOTES:

Circle if Applicable:

MS/MSD

Duplicate ID No.:

Signature(s):

J. Halford



Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Page of

Project Site Name: NASP Site 21
 Project No.: CTO 56 112G00583

- ☐ Domestic Well Data
☒ Monitoring Well Data
☐ Other Well Type:
☐ QA Sample Type:

Sample ID No.: QEN21GW6201
 Sample Location: mw 62
 Sampled By: C. Oen
 C.O.C. No.:
 Type of Sample:
☒ Low Concentration
☐ High Concentration

SAMPLING DATA:

Date: <u>5-8-07</u>	Color (Visual)	pH (S.U.)	S.C. (mS/cm)	Temp. (°C)	Turbidity (NTU)	DO (mg/l)	Salinity ORP (%)	Other
Time: <u>1440</u>								
Method: <u>Low flow</u>		<u>6.23</u>	<u>33.3</u>	<u>23.05</u>	<u>18.2</u>	<u>0.00</u>	<u>-168</u>	<u>1</u>

PURGE DATA:

Date: <u>5-8-07</u>	Volume	pH	S.C.	Temp.	Turbidity	DO	Salinity ORP (%)	Other <u>Flow</u>
Method: <u>low</u>	<u>1.0</u>	<u>6.23</u>	<u>35.9</u>	<u>23.34</u>	<u>23.7</u>	<u>1.27</u>	<u>-139</u>	<u>1415</u>
Monitor Reading (ppm):	<u>2.0</u>	<u>6.27</u>	<u>36.3</u>	<u>23.20</u>	<u>20.9</u>	<u>0.19</u>	<u>-153</u>	<u>1420</u>
Well Casing Diameter & Material	<u>3.0</u>	<u>6.25</u>	<u>34.4</u>	<u>23.05</u>	<u>19.2</u>	<u>0.00</u>	<u>-163</u>	<u>1425</u>
Type: <u>0.75" PVC</u>	<u>4.0</u>	<u>6.23</u>	<u>33.3</u>	<u>23.05</u>	<u>18.2</u>	<u>0.00</u>	<u>-168</u>	<u>1430</u>
Total Well Depth (TD): <u>13.61</u>								
Static Water Level (WL): <u>7.18</u>								
One Casing Volume(gal/L): <u>88.49</u>								
Start Purge (hrs): <u>1410</u>								
End Purge (hrs): <u>1440</u>								
Total Purge Time (min):								
Total Vol. Purged (gal/L):								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
<u>PAH</u>	<u>—</u>	<u>2x 16 Amber</u>	<u>✓</u>
<u>TRPH</u>	<u>HCl</u>	<u>2x 16 Amber</u>	<u>✓</u>
<u>BTEX</u>	<u>HCl</u>	<u>3 x 40ml vial</u>	<u>✓</u>
<u>Total Pb</u>	<u>HNO₃</u>	<u>1 x 200ml plastic</u>	<u>✓</u>

OBSERVATIONS / NOTES:

Flow rate = 200ml/min

Circle if Applicable:

MS/MSD

Duplicate ID No.:

Signature(s):

C. Oen

Project Site Name: NASP Site 21
Project No.: CTO 56 112G00583

Sample ID No.: PEWZ16W6301

Sample Location: 24, 63

Sampled By: C. C. C.

C.O.C. No.: _____

Type of Sample:

[X] Low Concentration

☐ High Concentration

- ☐ Domestic Well Data
☒ Monitoring Well Data
☐ Other Well Type:
☐ QA Sample Type:

SAMPLING DATA:

Date: 5-8-01	Color	pH	S.C.	Temp.	Turbidity	DO	Salinity ORP	Other
Time: 1150p	(Visual)	(S.U.)	(mS/cm)	(°C)	(NTU)	(mg/l)	(%)	
Method: Low flow		6.50	30.8	22.71	36.7	0.41	-227	

PURGE DATA:

Date:	Volume	pH	S.C.	Temp.	Turbidity	DO	Salinity	Other
Method:	2.25	6.48	30.5	22.57	37.9	1.55	-209	1110
Monitor Reading (ppm):	5.25	6.53	31.0	22.71	36.1	0.52	-223	1130
Well Casing Diameter & Material	6.75	6.49	30.8	22.74	36.3	0.45	-227	1140
Type: 0.75" PVC	7.25	6.50	30.8	22.71	36.7	0.41	-227	1145
Total Well Depth (TD): 12.52								
Static Water Level (WL): 6.88								
One Casing Volume (gal/L) 0.50								
Start Purge (hrs): 1055								
End Purge (hrs): 1150								
Total Purge Time (min):								
Total Vol. Purged (gal/L):								

SAMPLE COLLECTION INFORMATION:

[illegible]**OBSERVATIONS / NOTES:**

Flow rate = 150 mL/min

Circle if Applicable:

MS/MSD

Duplicate ID No.:

Signature(s):

[Signature]



Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Page of

Project Site Name: NASP Site 21
 Project No.: CTO 56 112G00583

☐ Domestic Well Data
☒ Monitoring Well Data
☐ Other Well Type:
☐ QA Sample Type:

Sample ID No.: PEN21GW6401
 Sample Location: MW64
 Sampled By: C. Oda
 C.O.C. No.:
 Type of Sample:
☒ Low Concentration
☐ High Concentration

SAMPLING DATA:

Date:	Color	pH	S.C.	Temp.	Turbidity	DO	Salinity	Other
<u>5-8-07</u>	(Visual)	(S.U.)	(mS/cm)	(°C)	(NTU)	(mg/l)	(%)	
Time: <u>1000</u>								
Method: <u>low flow</u>		<u>6.38</u>	<u>26.0</u>	<u>22.75</u>	<u>33.2</u>	<u>0.71</u>	<u>-256</u>	

PURGE DATA:

Date:	Volume	pH	S.C.	Temp.	Turbidity	DO	Salinity	Other
<u>5-8-07</u>								
Method: <u>low flow</u>	<u>1.0</u>	<u>6.48</u>	<u>30.3</u>	<u>22.17</u>	<u>44.9</u>	<u>0.05</u>	<u>-179</u>	<u>0840</u>
Monitor Reading (ppm): <u>1</u>	<u>2.0</u>	<u>6.55</u>	<u>30.1</u>	<u>22.20</u>	<u>40.8</u>	<u>0.00</u>	<u>-195</u>	<u>0845</u>
Well Casing Diameter & Material	<u>4.0</u>	<u>6.56</u>	<u>29.1</u>	<u>22.21</u>	<u>37.0</u>	<u>0.00</u>	<u>-220</u>	<u>0855</u>
Type: <u>0.75" PVC</u>	<u>8.0</u>	<u>6.48</u>	<u>27.3</u>	<u>22.27</u>	<u>36.3</u>	<u>0.00</u>	<u>-255</u>	<u>0915</u>
Total Well Depth (TD): <u>14.45</u>	<u>12.0</u>	<u>6.40</u>	<u>26.4</u>	<u>22.51</u>	<u>34.0</u>	<u>0.74</u>	<u>-256</u>	<u>0935</u>
Static Water Level (WL): <u>7.09</u>	<u>16.0</u>	<u>6.38</u>	<u>26.0</u>	<u>22.75</u>	<u>33.2</u>	<u>0.71</u>	<u>-256</u>	<u>0955</u>
One Casing Volume (gal/L): <u>0.35</u>								
Start Purge (hrs): <u>0835</u>								
End Purge (hrs): <u>0955</u>								
Total Purge Time (min):								
Total Vol. Purged (gal/L):								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
<u>TRPH</u>	<u>HCl</u>	<u>2 x 1L Amber</u>	<u>✓</u>
<u>PAH</u>	<u>—</u>	<u>2 x 1L Amber</u>	<u>✓</u>
<u>USE-BTEX</u>		<u>3 x 40 mL glass vial</u>	<u>✓</u>
<u>total Pb</u>	<u>HNO₃</u>	<u>1 x 200 mL plastic</u>	<u>✓</u>

OBSERVATIONS / NOTES:

flow rate = 200 ml/min

Circle if Applicable:

MS/MSD

Duplicate ID No.:

PEN21GW6401

Signature(s):

Project Site Name: NASP Site 21
Project No.: CTO 56 112G00583

Sample ID No.: PEN21GW6501

Sample Location: Site 21.

Sampled By: JH

C.O.C. No.: _____

I] Domestic Well Data

☒ Monitoring Well Data

☐ Other Well Type:

QA Sample Type:

Type of Sample:

[X] Low Concentration

☐ High Concentration

SAMPLING DATA:

Date: 5-8-07	Color	pH	S.C.	Temp.	Turbidity	DO	Salinity	Other
Time: 09:35	(Visual)	(S.U.)	(mS/cm)	(°C)	(NTU)	(mg/l)	(%)	
Method: low flow	clear	6.04	0.387	21.55	33.1	3.44	0.0	

PURGE DATA:

Date: 5-8-07	Volume	pH	S.C.	Temp.	Turbidity	DO	Salinity	-Other time
Method: low flow		5.97	0.578	22.12	80.0	4.71	0.0	08:48
Monitor Reading (ppm): 0		6.24	0.469	21.67	46.5	1.8	0.0	08:53
Well Casing Diameter & Material		6.20	0.421	21.51	36.1	9.79	0.0	09:10
Type: 3/4" PVC		6.15	0.401	21.46	33.9	9.69	0.0	09:20
Total Well Depth (TD): 14.15		6.04	0.387	21.55	33.1	3.44	0.0	09:35
Static Water Level (WL): 7.45								
One Casing Volume(gal/L): 0.134								
Start Purge (hrs): 0848								
End Purge (hrs): 0935								
Total Purge Time (min):								
Total Vol. Purged (gal/L): 4.5								

SAMPLE COLLECTION INFORMATION:[illegible]**OBSERVATIONS / NOTES:**

$\frac{3}{4}$ " pipe
 $0.02 \times 6.7 = 0.134$
 $\begin{array}{r} 14.15 \\ - 7.45 \\ \hline 6.70 \end{array}$

Circle if Applicable:

MS/MSD

Duplicate ID No.:

Signature(s):

J. Halfhill

Project Site Name: <u>NASP Site 21</u>		Sample ID No.: <u>PEN21GW6601</u>
Project No.: <u>CTO 56 112G00583</u>		Sample Location: <u>HW66</u>
		Sampled By: <u>JH</u>
		C.O.C. No.: _____
<input type="checkbox"/> Domestic Well Data <input checked="" type="checkbox"/> Monitoring Well Data <input type="checkbox"/> Other Well Type: _____ <input type="checkbox"/> QA Sample Type: _____		Type of Sample: <input checked="" type="checkbox"/> Low Concentration <input type="checkbox"/> High Concentration

SAMPLING DATA:								
Date: <u>5-8-07</u>	Color (Visual)	pH (S.U.)	S.C. (mS/cm)	Temp. (°C)	Turbidity (NTU)	DO (mg/l)	Salinity (%)	Other
Time: <u>1100</u>								
Method: <u>low flow</u>		<u>6.68</u>	<u>0.613</u>	<u>22.11</u>	<u>11.8</u>	<u>11.29</u>	<u>0.0</u>	

PURGE DATA:								
Date: <u>5/8/07</u>	Volume	pH	S.C.	Temp.	Turbidity	DO	Salinity	Other Time
Method: <u>low flow</u>		<u>6.68</u>	<u>0.626</u>	<u>23.65</u>	<u>59.7</u>	<u>1.92</u>	<u>0.0</u>	<u>10:35</u>
Monitor Reading (ppm):		<u>6.72</u>	<u>0.633</u>	<u>22.45</u>	<u>14.6</u>	<u>4.07</u>	<u>0.0</u>	<u>10:45</u>
Well Casing Diameter & Material		<u>6.71</u>	<u>0.623</u>	<u>22.23</u>	<u>13.1</u>	<u>10.96</u>	<u>0.0</u>	<u>10:50</u>
Type:		<u>6.68</u>	<u>0.613</u>	<u>22.11</u>	<u>11.8</u>	<u>11.29</u>	<u>0.0</u>	<u>11:00</u>
Total Well Depth (TD): <u>14.25</u>								
Static Water Level (WL): <u>7.6</u>								
One Casing Volume(gal/L): <u>0.133</u>								
Start Purge (hrs): <u>10:35</u>								
End Purge (hrs): <u>1100</u>								
Total Purge Time (min):								
Total Vol. Purged (gal/L):								

SAMPLE COLLECTION INFORMATION:				
Analysis	Preservative	Container Requirements		Collected
<u>PAH</u>	<u>-</u>	<u>2</u>	<u>x 1L Amber</u>	<u>X</u>
<u>TRPH</u>	<u>HCl</u>	<u>2</u>	<u>x 1L Amber</u>	<u>x</u>
<u>BTEX</u>	<u>HCl</u>	<u>3</u>	<u>x 40mL vial</u>	<u>x</u>

OBSERVATIONS / NOTES:
<u>0.02 x 6.65 = 0.133</u> <u>13</u> <u>14.25</u> <u>-7.6</u> <u>6.65</u>

Circle if Applicable:	Signature(s):
MS/MSD _____ Duplicate ID No.: _____	<u>[Signature]</u>

Project Site Name: NASP Site 21
Project No.: CTO 56 112G00583

Sample ID No.: PEW21GW6701

Sample Location: NW 64

Sampled By: C. Oden

C.O.C. No.: _____

- ☐ Domestic Well Data
☒ Monitoring Well Data
☐ Other Well Type:
☐ QA Sample Type:

Type of Sample: _____

[X] Low Concentration

☐ High Concentration

SAMPLING DATA:

Date: 5-9-07	Color (Visual)	pH (S.U.)	S.C. (mS/cm)	Temp. (°C)	Turbidity (NTU)	DO (mg/l)	Salinity DEP (%)	Other
Time: 1550								
Method: Low Flow								
		7.12	45.4	23.95	17.6	0.0	-243	

PURGE DATA:

Date: 5-9-02	Volume	pH	S.C.	Temp.	Turbidity	DO	Salinity	Other
Method: low flow	1.0L	7.01	45.7	23.83	148	1.45	-244	1430
Monitor Reading (ppm):	3.0L	7.12	45.0	24.03	65.2	0.24	-251	1440
Well Casing Diameter & Material	5.0L	7.13	45.5	23.75	38.1	0.67	-264	1450
Type: 0.75" PVC	7.0L	7.15	44.8	24.12	27.6	0.48	-261	1500
Total Well Depth (TD): 14.38	9.0L	7.13	45.7	23.70	26.3	0.00	-254	1510
Static Water Level (WL): 6.38	13.0L	7.13	45.3	23.75	21.0	0.62	-254	1530
One Casing Volume (gal): 0.61	15.0L	7.14	45.3	23.92	18.9	0.00	-250	1540
Start Purge (hrs): 1425	16.0L	7.13	45.4	23.95	18.3	0.00	-246	1545
End Purge (hrs): 1550	17.0L	7.12	45.4	23.95	17.6	0.00	-243	1550
Total Purge Time (min):								
Total Vol. Purged (gal): 0.7L								

SAMPLE COLLECTION INFORMATION:[illegible]**OBSERVATIONS / NOTES:**

Circle if Applicable:

MS/MSD

Duplicate ID No.:

Signature(s):



Page__ of

Project Site Name: NASP Site 21
Project No.: CTO 56 112G00583

Sample ID No.: Perm 21 MW 689

Sample Location: MW68

Sampled By: J.D. Spelding

C.O.C. No.: 5.0.2018/2/5

Type of Sample: _____

[X] Low Concentration

[] High Concentration

- ☐ Domestic Well Data
☒ Monitoring Well Data
☐ Other Well Type:
☐ QA Sample Type:

SAMPLING DATA:

Date: 5-8-22	Color	pH	S.C.	Temp.	Turbidity	DO	Salinity	Other
Time: 1409	(Visual)	(S.U.)	(mS/cm)	(°C)	(NTU)	(mg/l)	(%)	
Method: low flow		6.86	50.7	22.86	14.1	0.00	-297	

PURGE DATA:

Date:	Volume	pH	S.C.	Temp.	Turbidity	DO	Salinity	Other
Method: Peristaltic Low flow	125 mL/min	6.83	53.9	23.52	791.0	5.16		
Monitor Reading (ppm):	1350	6.83	52.7	22.67	320.0	0.36		1335
Well Casing Diameter & Material		6.95	51.3	22.62	19.7	0.00	-281	1330
Type: 3/4" PVC	3.125	6.87	50.8	22.87	14.2	0.00	-245	1355
Total Well Depth (TD): 14.43	3.75	6.86	50.7	22.96	14.1	0.00	-292	1400
Static Water Level (WL): 8.04								
One Casing Volume (gal/L):								
Start Purge (hrs): 1330								
End Purge (hrs): 1400								
Total Purge Time (min): 30								
Total Vol. Purged (gal/L): 3.75								

SAMPLE COLLECTION INFORMATION:[illegible]**OBSERVATIONS / NOTES:**

flow rate = 125 ml/min

Circle if Applicable:

MS/MSD

Duplicate ID No.:

Signature(s):



Project Site Name: NASP Site 21
Project No.: CTO 56 112G00583

Sample ID No.: PENZIGW6901

Sample Location: M469

Sampled By: _____

C.O.C. No.: _____

Type of Sample: _____

☐ Domestic Well Data
☒ Monitoring Well Data
☐ Other Well Type:
☐ QA Sample Type:

[X] Low Concentration

☐ High Concentration

SAMPLING DATA:

Date: 5-9-07	Color	pH	S.C.	Temp.	Turbidity	DO	Salinity	Other
Time: 12:10	(Visual)	(S.U.)	(mS/cm)	(°C)	(NTU)	(mg/l)	(%)	ORP
Method: Low-flow		6.95	275	22.37	42.4	0.84	0.0	-165

PURGE DATA:

Date:	Volume	pH	S.C.	Temp.	Turbidity	DO	Salinity	Other
Method: low flow	Initial	7.06	281	22.68	61.1	0.22	0.0	-187
Monitor Reading (ppm):	1117	7.03	276	22.09	38.0	0.44	0.0	-175
Well Casing Diameter & Material	1130	7.00	275	22.18	31.9	0.49	0.0	-171
Type: 0.75" PVC	1150	6.94	275	22.13	32.4	3.34	0.0	-165
Total Well Depth (TD): 11.94	1200	6.94	275	22.34	29.4	2.39	0.0	-165
Static Water Level (WL): 7.14	1210	6.45	1275	22.37	42.4	0.84	0.0	-165
One Casing Volume (gal): 0.36								
Start Purge (hrs): 10:57/102								
End Purge (hrs): 1210								
Total Purge Time (min):								
Total Vol. Purged (gal/L):								

SAMPLE COLLECTION INFORMATION:[illegible]**OBSERVATIONS / NOTES:**

well loc next to sea wall SSW of lift station.

Circle if Applicable:

MS/MSD

Duplicate ID No.:

Signature(s):

Chen



Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Page ___ of ___

Project Site Name: NASP Site 21
 Project No.: CTO 56 112G00583

- ☐ Domestic Well Data
☒ Monitoring Well Data
☐ Other Well Type: _____
☐ QA Sample Type: _____

Sample ID No.: PEN21GW7001
 Sample Location: MW 70
 Sampled By: JH
 C.O.C. No.: _____
 Type of Sample:
☒ Low Concentration
☐ High Concentration

SAMPLING DATA:

Date:	Color (Visual)	pH (S.U.)	S.C. (mS/cm)	Temp. (°C)	Turbidity (NTU)	DO (mg/l)	Salinity (%)	Other
5/9/07								ORP
Time: 14:15								
Method: low flow		6.83	0.68	23.16	10.26	5.48	0.0	-160

PURGE DATA:

Date:	Volume	pH	S.C.	Temp.	Turbidity	DO	Salinity	Other
5/9/07								ORP
Method: low flow	14:00	6.80	0.714	26.63	45.3	15.64	0.0	-163
Monitor Reading (ppm):	14:05	6.82	0.695	23.97	19.8	14.94	0.0	-153
Well Casing Diameter & Material	14:10	6.82	0.687	23.40	12.0	14.19	0.0	-158
Type: 3/4" PVC	14:15	6.83	0.681	23.16	10.26	5.48	0.0	-160
Total Well Depth (TD): 14.4								
Static Water Level (WL): 6.85								
One Casing Volume(gal/L): 0.15								
Start Purge (hrs):								
End Purge (hrs):								
Total Purge Time (min):								
Total Vol. Purged (gal/L):								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
Total Pb	HNO ₃	1 x 200ml plastic	X

OBSERVATIONS / NOTES:

$ \begin{array}{r} 14.4 \\ - 6.85 \\ \hline 7.55 \end{array} $ <p>14.4</p> <p>6.85 6.85</p>	$7.55 \times 0.02 =$
---	----------------------

Circle if Applicable:

MS/MSD	Duplicate ID No.:	Signature(s):
		J. Halford

Project Site Name: NASP Site 21
Project No.: CTO 56 112G00583

Sample ID No.: *PEN 216W/7101*

Sample Location: MW71

Sampled By: _____

C.O.C. No.: _____

Type of Sample: _____

☐ Domestic Well Data
☒ Monitoring Well Data

☐ Other Well Type:

QA Sample Type: _____

[X] Low Concentration

☐ High Concentration

SAMPLING DATA:

Date: 5/9/07	Color	pH	S.C.	Temp.	Turbidity	DO	Salinity	Other
Time: 1319	(Visual)	(S.U.)	(mS/cm)	(°C)	(NTU)	(mg/l)	(%)	ORP
Method: low flow		7.02	.505	24.94	25.1	5.37	0.0	-168

PURGE DATA:

Date:	Volume	pH	S.C.	Temp.	Turbidity	DO	Salinity	Other
Method: low flow Peristaltic	Initial	7.00	.406	24.34	151	9.57	0.0	-147
Monitor Reading (ppm):	1204	6.96	.465	24.17	51.5	6.32	0.0	-160
Well Casing Diameter & Material	1224	6.99	.503	24.59	38.6	7.40	0.0	-171
Type: 3/4"	1243	7.00	.519	24.56	23.6	6.12	0.0	-164
Total Well Depth (TD): 14.50	1317	7.02	.505	24.94	25.1	5.37	0.0	-168
Static Water Level (WL): 6.89								
One Casing Volume (gal/L): 0.15								
Start Purge (hrs): 147								
End Purge (hrs): 1317								
Total Purge Time (min):								
Total Vol. Purged (gal/L):								

SAMPLE COLLECTION INFORMATION:[illegible]**OBSERVATIONS / NOTES:**
$$\begin{array}{r} 1314.50 \\ - 6.89 \\ \hline 7.61 \end{array}$$
$$7.61 \times 0.02 =$$

* Turbidity increased on last reading, collected sample at 1319

Circle if Applicable:

MS/MSD

Duplicate ID No.:

Signature(s):

Project Site Name:	NASP Site 21
Project No.:	CTO 56 112G00583

Sample ID No.: PEN 21^GW7201

Sample Location: Site 21

Sampled By: _____

C.O.C. No.: _____

Type of Sample: _____

[X] Low Concentration

☐ High Concentration

☐ Domestic Well Data
☒ Monitoring Well Data
☐ Other Well Type:
☐ QA Sample Type:

SAMPLING DATA:

Date: 5-9-07	Color (Visual)	pH (S.U.)	S.C. (mS/cm)	Temp. (°C)	Turbidity (NTU)	DO (mg/l)	Salinity (%)	Other ORP
Time: 1130								
Method: low flow								
		6.83	286	23.33	68.4	11.82	0.0	-131

PURGE DATA:

Date:	Volume	pH	S.C.	Temp.	Turbidity	DO	Salinity	Other
Method: <i>low flow peristaltic</i>	<i>Initial</i>	<i>6.34</i>	<i>.279</i>	<i>24.02</i>	<i>272</i>	<i>7.41</i>	<i>0.0</i>	<i>-82</i>
Monitor Reading (ppm):	<i>1010</i>	<i>6.50</i>	<i>.287</i>	<i>22.85</i>	<i>205</i>	<i>4.89</i>	<i>0.0</i>	<i>-104</i>
Well Casing Diameter & Material	<i>1011</i>	<i>6.62</i>	<i>.293</i>	<i>22.68</i>	<i>132</i>	<i>3.90</i>	<i>0.0</i>	<i>-104</i>
Type: <i>3/4"</i>		<i>6.74</i>	<i>.285</i>	<i>22.73</i>	<i>102.7</i>	<i>11.03</i>	<i>0.0</i>	<i>-122</i>
Total Well Depth (TD): <i>14.53</i>		<i>6.78</i>	<i>.285</i>	<i>22.83</i>	<i>80.6</i>	<i>11.78</i>	<i>0.0</i>	<i>-124</i>
Static Water Level (WL): <i>6.8</i>	<i>1046</i>	<i>6.81</i>	<i>.287</i>	<i>23.15</i>	<i>76.4</i>	<i>8.94</i>	<i>0.0</i>	<i>-129</i>
One Casing Volume (gal/L): <i>0.15</i>	<i>1056</i>	<i>6.84</i>	<i>.283</i>	<i>23.22</i>	<i>66.2</i>	<i>8.60</i>	<i>0.0</i>	<i>-128</i>
Start Purge (hrs): <i>09.50</i>		<i>6.83</i>	<i>.287</i>	<i>23.67</i>	<i>64.6</i>	<i>7.19</i>	<i>0.0</i>	<i>-131</i>
End Purge (hrs): <i>1130</i>	<i>1130</i>	<i>6.83</i>	<i>.286</i>	<i>23.33</i>	<i>68.4</i>	<i>11.82</i>	<i>0.0</i>	<i>-131</i>
Total Purge Time (min):								
Total Vol. Purged (gal/L):								

SAMPLE COLLECTION INFORMATION:

[illegible]**OBSERVATIONS / NOTES:**
$$\frac{3}{4}''$$
$$14.153$$
$$\begin{array}{r} 14.153 \\ - 6.80 \\ \hline 7.73 \end{array}$$
$$0.02 \times 7.73 =$$
Circle if Applicable:

MS/MSD

Duplicate ID No.:

Signature(s):



GROUNDWATER SAMPLE LOG SHEET

Page 1 of 1

Project Site Name: NASP Site 21
 Project No.: CTO 56 112G00583

- ☐ Domestic Well Data
☒ Monitoring Well Data
☐ Other Well Type: _____
☐ QA Sample Type: _____

Sample ID No.: PEN216W7301
 Sample Location: Site 21
 Sampled By: JB
 C.O.C. No.: _____
 Type of Sample:
☒ Low Concentration
☐ High Concentration

SAMPLING DATA:

Date:	Color	pH	S.C.	Temp.	Turbidity	DO	Salinity	Other
<u>5/10/07</u>	(Visual)	(S.U.)	(mS/cm)	(°C)	(NTU)	(mg/l)	(%)	
Time: <u>1555</u>								
Method: <u>low flow</u>		<u>6.56</u>	<u>.405</u>	<u>22.78</u>	<u>10.39</u>	<u>4.78</u>	<u>0.0</u>	<u>-145</u>

PURGE DATA:

Date:	Volume	pH	S.C.	Temp.	Turbidity	DO	Salinity	Other
<u>5/10/07</u>								
Method: <u>low flow</u>	<u>Initial</u>	<u>6.65</u>	<u>.474</u>	<u>23.81</u>	<u>222</u>	<u>4.50</u>	<u>0.0</u>	<u>-165</u>
Monitor Reading (ppm): <u>Ø</u>	<u>1530</u>	<u>6.53</u>	<u>.431</u>	<u>22.94</u>	<u>11.7</u>	<u>7.63</u>	<u>0.0</u>	<u>-133</u>
Well Casing Diameter & Material	<u>1545</u>	<u>6.51</u>	<u>.409</u>	<u>23.29</u>	<u>9.34</u>	<u>6.03</u>	<u>0.0</u>	<u>-148</u>
Type: <u>3/4" PVC</u>	<u>1550</u>	<u>6.56</u>	<u>.405</u>	<u>22.78</u>	<u>10.39</u>	<u>4.78</u>	<u>0.0</u>	<u>-145</u>
Total Well Depth (TD): <u>14.35</u>								
Static Water Level (WL): <u>7.49</u>								
One Casing Volume(gal/L):								
Start Purge (hrs): <u>1523</u>								
End Purge (hrs): <u>1555</u>								
Total Purge Time (min):								
Total Vol. Purged (gal/L):								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
<u>BTEX</u>	<u>HCl</u>		
<u>PAH</u>	<u>—</u>		
<u>TRPH</u>	<u>HCl</u>		
<u>Total Pb</u>	<u>HNO₃</u>		

OBSERVATIONS / NOTES:

Circle if Applicable:

MS/MSD

Duplicate ID No.:

Signature(s):



Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Page ___ of ___

Project Site Name: NASP Site 21
Project No.: CTO 56 112G00583

Sample ID No.: PEN21MW7401Sample Location: MW 74Sampled By: J.D. Spalding

C.O.C. No.: _____

☐ Domestic Well Data
☒ Monitoring Well Data

☐ Other Well Type: _____

☐ QA Sample Type: _____

Type of Sample:

☒ Low Concentration

☐ High Concentration

SAMPLING DATA:

Date: <u>5/10/07</u>	Color	pH	S.C.	Temp.	Turbidity	DO	Salinity	Other
Time: <u>1405</u>	(Visual)	(S.U.)	(mS/cm)	(°C)	(NTU)	(mg/l)	(%)	
Method: <u>low flow</u>	<u>Clear</u>	<u>6.52</u>	<u>43.2</u>	<u>22.40</u>	<u>6.89</u>	<u>0.00</u>	<u>0.0</u>	

PURGE DATA:

Date: <u>5-10-07</u>	Volume	pH	S.C.	Temp.	Turbidity	DO	Salinity	Other
Method: <u>Low Flow Peristaltic</u>		<u>6.76</u>	<u>46.7</u>	<u>22.58</u>	<u>679.0</u>	<u>3.29</u>	<u>0.0</u>	
Monitor Reading (ppm):		<u>6.62</u>	<u>44.1</u>	<u>22.34</u>	<u>98.1</u>	<u>0.00</u>	<u>0.0</u>	
Well Casing Diameter & Material		<u>6.57</u>	<u>43.7</u>	<u>22.66</u>	<u>20.1</u>	<u>0.00</u>	<u>0.0</u>	
Type: <u>3/4" PVC</u>		<u>6.53</u>	<u>43.4</u>	<u>22.65</u>	<u>14.1</u>	<u>0.00</u>	<u>0.0</u>	
Total Well Depth (TD): <u>12.82</u>		<u>6.52</u>	<u>43.2</u>	<u>22.40</u>	<u>6.89</u>	<u>0.00</u>	<u>0.0</u>	
Static Water Level (WL): <u>7.56</u>								
One Casing Volume (gal/L):								
Start Purge (hrs): <u>1330</u>								
End Purge (hrs): <u>1405</u>								
Total Purge Time (min): <u>35m</u>								
Total Vol. Purged (gal/L):								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
<u>PAH</u>	<u>Cool 4°C</u>	<u>2 x 1L Ambers</u>	<input checked="" type="checkbox"/>
<u>TRPH</u>	<u>HCL</u>	<u>2 x 1L Ambers</u>	<input checked="" type="checkbox"/>
<u>BTEX</u>	<u>HCL</u>	<u>3 x 40mL Glass</u>	<input checked="" type="checkbox"/>
<u>Total head.</u>	<u>HNO₃</u>	<u>1 x 125mL Poly</u>	<input checked="" type="checkbox"/>

OBSERVATIONS / NOTES:

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Circle if Applicable:

Signature(s):

MS/MSD

Duplicate ID No.:



GROUNDWATER SAMPLE LOG SHEET

Page of

Project Site Name: NASP Site 21
 Project No.: CTO 56 112G00583

Sample ID No.: PEN2/GW7501Sample Location: MWSampled By: J.D. SpaldingC.O.C. No.:

Type of Sample:

☒ Low Concentration☐ High Concentration

- ☐ Domestic Well Data
☒ Monitoring Well Data
☐ Other Well Type:
☐ QA Sample Type:

SAMPLING DATA:

Date: <u>5-10-07</u>	Color	pH	S.C.	Temp.	Turbidity	DO	Salinity	Other
Time: <u>1525</u>	(Visual)	(S.U.)	(mS/cm)	(°C)	(NTU)	(mg/l)	(%)	
Method: <u>Low flow</u>	<u>Clear</u>	<u>6.65</u>	<u>39.5</u>	<u>22.59</u>	<u>10.79</u>	<u>0.00</u>	<u>0.0</u>	

PURGE DATA:

Date: <u>5-10-07</u>	Volume	pH	S.C.	Temp.	Turbidity	DO	Salinity	Other
Method: <u>Low Flow/Peristaltic</u>		<u>6.64</u>	<u>44.3</u>	<u>23.39</u>	<u>682.0</u>	<u>1.42</u>	<u>0.0</u>	
Monitor Reading (ppm):		<u>6.69</u>	<u>39.8</u>	<u>22.04</u>	<u>192.0</u>	<u>0.00</u>	<u>0.0</u>	
Well Casing Diameter & Material		<u>6.72</u>	<u>59.6</u>	<u>22.61</u>	<u>28.8</u>	<u>0.00</u>	<u>0.0</u>	
Type: <u>3/4" PVC</u>		<u>6.72</u>	<u>39.8</u>	<u>22.46</u>	<u>21.9</u>	<u>0.00</u>	<u>0.0</u>	
Total Well Depth (TD): <u>14.53</u>		<u>6.69</u>	<u>39.5</u>	<u>22.53</u>	<u>11.9</u>	<u>0.00</u>	<u>0.0</u>	
Static Water Level (WL): <u>7.38</u>		<u>6.65</u>	<u>39.5</u>	<u>22.59</u>	<u>10.77</u>	<u>0.00</u>	<u>0.0</u>	
One Casing Volume(gal/L):								
Start Purge (hrs): <u>1445</u>								
End Purge (hrs): <u>1525</u>								
Total Purge Time (min):								
Total Vol. Purged (gal/L):								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
<u>BTEX</u>	<u>HCL</u>	<u>3X40mL Glass</u>	<u>X</u>
<u>PAH</u>	<u>cool 4°C</u>	<u>2X1L Amber</u>	<u>X</u>
<u>TRPH</u>	<u>HCL</u>	<u>2X1L Amber</u>	<u>X</u>
<u>Total Lead</u>	<u>HNO₃</u>	<u>1X125mL Polyz</u>	<u>X</u>

OBSERVATIONS / NOTES:

Circle if Applicable:

MS/MSD

Duplicate ID No.: Signature(s):



GROUNDWATER SAMPLE LOG SHEET

Page 1 of 1

Project Site Name: NASP Site 21
 Project No.: CTO 56 112G00583

- ☐ Domestic Well Data
☒ Monitoring Well Data
☐ Other Well Type: _____
☐ QA Sample Type: _____

Sample ID No.: PEA/21GW7601
 Sample Location: Site 21
 Sampled By: JB
 C.O.C. No.: _____
 Type of Sample:
☒ Low Concentration
☐ High Concentration

SAMPLING DATA:

ORP

Date:	Color	pH	S.C.	Temp.	Turbidity	DO	Salinity	Other
	(Visual)	(S.U.)	(mS/cm)	(°C)	(NTU)	(mg/l)	(%)	
Date: <u>5/10/07</u>								
Time: <u>1433</u>								
Method: <u>low flow</u>	<u>murky</u>	<u>6.44</u>	<u>.589</u>	<u>25.06</u>	<u>48.6</u>	<u>7.79</u>	<u>0.0</u>	<u>-117</u>

PURGE DATA:

ORP

Date:	Volume	pH	S.C.	Temp.	Turbidity	DO	Salinity	Other
Date: <u>5/10/07</u>								
Method: <u>low flow</u>	<u>Initial</u>	<u>6.70</u>	<u>.881</u>	<u>24.50</u>	<u>83.7</u>	<u>7.97</u>	<u>0.0</u>	<u>-126</u>
Monitor Reading (ppm): <u>0</u>	<u>1332</u>	<u>6.58</u>	<u>.513</u>	<u>23.78</u>	<u>103.7</u>	<u>4.83</u>	<u>0.0</u>	<u>-147</u>
Well Casing Diameter & Material	<u>1351</u>	<u>6.43</u>	<u>.615</u>	<u>25.53</u>	<u>52.3</u>	<u>6.67</u>	<u>0.0</u>	<u>-127</u>
Type: <u>3/4" PVC</u>	<u>1404</u>	<u>6.44</u>	<u>.631</u>	<u>25.14</u>	<u>49.5</u>	<u>7.96</u>	<u>0.0</u>	<u>-121</u>
Total Well Depth (TD):	<u>1414</u>	<u>6.43</u>	<u>.622</u>	<u>24.75</u>	<u>47.6</u>	<u>8.53</u>	<u>0.0</u>	<u>-119</u>
Static Water Level (WL):	<u>1430</u>	<u>6.44</u>	<u>.589</u>	<u>25.06</u>	<u>48.6</u>	<u>7.79</u>	<u>0.0</u>	<u>-117</u>
One Casing Volume (gal/L):								
Start Purge (hrs): <u>1324</u>								
End Purge (hrs): <u>1430</u>								
Total Purge Time (min): <u>66min</u>								
Total Vol. Purged (gal/L):								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
<u>RTEX</u>	<u>HCl</u>	<u>40ml VOA x 3</u>	<u>✓</u>
<u>PAH</u>	<u>—</u>	<u>16 Amber x 2</u>	<u>✓</u>
<u>TRPH</u>	<u>HCl</u>	<u>16 Amber x 2</u>	<u>✓</u>
<u>Total Pb</u>	<u>HNO₃</u>	<u>200ml Poly x 1</u>	<u>✓</u>

OBSERVATIONS / NOTES:

Circle if Applicable:

Signature(s):

MS/MSD

Duplicate ID No.:



TETRA TECH NUS, INC.

CHAIN OF CUSTODY

NUMBER

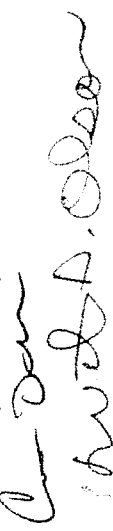
1819

|

PAGE 2 OF 2

PROJECT NO:
112600583FACILITY:
Passaic WAS

SAMPLERS (SIGNATURE)

STANDARD TAT ☐RUSH TAT ☐☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 7 day ☐ 14 dayPROJECT MANAGER
Gerry Walker
FIELD OPERATIONS LEADER
C. A. Odon
CARRIERWAYBILL NUMBERPHONE NUMBER
850-385-9499PHONE NUMBER
850-210-3681LABORATORY NAME AND CONTACT:
Sean Harty Man/FWCOADDRESS
4810 Executive Park Ct, Suite 211CITY, STATE
Day, FL 32216CONTAINER TYPE
PLASTIC (P) or GLASS (G)
PRESERVATIVE
USED
TYPE OF ANALYSIS
Matrix, Lead, Zinc
NO. OF CONTAINERS
COLLECTION METHOD
GRAB (G)
COMP (C)
MATRIX (GW, SO, SW, SD, QC,
ETC.)
BOTTOM DEPTH (FT)
TOP DEPTH (FT)
LOCATION ID
SAMPLE ID
TIME
DATE

DATE	TIME	LOCATION ID	SAMPLE ID	TIME	TOP DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	NO. OF CONTAINERS	CONTAINER TYPE PLASTIC (P) or GLASS (G) PRESERVATIVE USED	TYPE OF ANALYSIS	COMMENTS
1-7	1125	NASP21-MW69-0109	MW69		-	GW	G	1		Matrix, Lead, Zinc	
1-7	1035	NASP21-MW61-0109	MW61		-	GW	G	1			
1-7	0935	NASP21-MW39-0109	MW39		-	GW	G	1			
1-7	0935	NASP21-MW39-0109-MS	MW39		-	GW	G	1			
1-7	0935	NASP21-MW39-0109-MSD	MW39		-	GW	G	1			
1-7	1215	NASP21-MW36-0109	MW36		-	GW	G	1			
1-7	1555	NASP21-MW43-0109	MW43		-	GW	G	1			
1-7	1505	NASP21-MW21-0109	MW21		-	GW	G	1			
1-7	1400	NASP21-MW34-0109	MW34		-	GW	G	1			
1-7	1320	NASP21-MW28-0109	MW28		-	GW	G	1			
1-7	1215	NASP21-MW44-0109	MW44		-	GW	G	1			
1-7	1140	NASP21-MW10-0109	MW10		-	GW	G	1			
1-7	1105	NASP21-MW11-0109	MW11		-	GW	G	1			

1. RELINQUISHED BY	DATE	TIME	1. RECEIVED BY	DATE	TIME
Sean Harty Man	1-8-09	1200			
2. RELINQUISHED BY	DATE	TIME	2. RECEIVED BY	DATE	TIME
3. RELINQUISHED BY	DATE	TIME	3. RECEIVED BY	DATE	TIME

COMMENTS

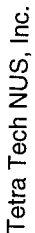
DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE)

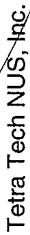
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PINK (FILE COPY)

FORM NO. TNUS-001

[illegible]

[illegible]



PROJECT NAME :

INSTRUMENT NAME/MODEL:

SS6 TSP

SITE NAME:

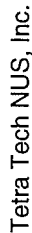
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PROJECT No.:

SERIAL NUMBER: 87

76007

[illegible]



EQUIPMENT CALIBRATION LOG

PROJECT NAME: Sito 21

SITE NAME: _____

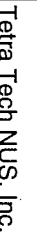
PROJECT No.: _____

INSTRUMENT NAME/MODEL: lanote 2020

MANUFACTURER: lanote

SERIAL NUMBER: 5291-3504

[illegible]



PROJECT NAME :

INSTRUMENT NAME/MODEL:

2000

SITE NAME:

MANUFACTURER:

Re

PROJECT No.:

SERIAL NUMBER:

[illegible]



Tetra Tech NUS, Inc.

GROUNDWATER LEVEL MEASUREMENT SHEET

Project Name: PEN UST 21 **Project No.:** _____
Location: Site 21 **Personnel:** W.D. Olson/C. Odom
Weather Conditions: _____ **Measuring Device:** Water level indicator
Tidally Influenced: Yes ☒ No ☐ **Remarks:** _____

Well or Piezometer Number	Date	Time	TOC Elevation (feet)*	Installed Well Depth (feet)*	Measured Well Depth (feet)*	Water Level (feet)*	Groundwater Elevation (feet)*	Comments
MW-1	1-6-09	0759	26.54	3.38?	obstructed	-		0.0
MW-2	1-6-09	0802	28.08	12.89	obstructed	-		0.0
MW-3	1-6-09	0804	28.89	5.58	11	-		
MW-4	1-6-09	0810	28.59	12.34	6.37	12.18		0.0
MW-5	1-6-09	0913	29.93	12.92	6.75	13.75		0.0
MW-6	1-6-09	0837	28.40	12.78	6.04	12.63		0.0
MW-7	1-6-09	0814	28.49	12.74	6.23	7.77		0.0
MW-8	1-6-09	0812	28.50	13.18	obstructed	-		0.0
MW-9	1-6-09	0816	28.45	5.38	obstructed	-		0.0
MW-10	1-6-09	0917	29.21	13.30	unable to locate	-		
MW-11	1-6-09	0908	28.59	13.08	6.31	13.00		0.1
MW-12	1-6-09	0915	29.08	12.96	6.92	12.82		0.0
MW-13	1-6-09	0936	28.74	13.14	6.56	13.06		0.0
MW-14	1-6-09	0941	28.93	13.44	unable to locate	-		
MW-15	1-6-09	0900	28.68	13.60	6.28	13.50		0.0
MW-16	1-6-09	0957	28.53	14.34	6.28	13.15		0.0
MW-17	1-6-09	0905	28.62	13.72	6.34	13.61		0.0
MW-18	1-6-09	0947	28.68	13.73	6.50	13.61		0.0
MW-19	1-6-09	1003	29.49	13.42	7.46	13.15		0.8
MW-20	1-6-09	1002	29.55	13.66	7.35	13.44		0.2
MW-21	1-6-09	1004	29.20	13.24	7.34	13.00		0.0
MW-22	1-6-09	0954	29.33	13.34	7.47	13.20		0.0
MW-23	1-6-09	0957	29.04	7.44	7.16	7.75		0.0
MW-24	1-6-09	0959	29.41	13.12	7.35	13.01		0.1
MW-25	1-6-09	1005	29.28	13.26	7.27	13.16		0.1

* All measurements to the nearest 0.01 foot

crack, damaged on MW 25, most reservoir



Tetra Tech NUS, Inc.

GROUNDWATER LEVEL MEASUREMENT SHEET

Project Name: PEN UST 21 **Project No.:**
Location: Site 21 **Personnel:** W.D. Olson/C. Odom
Weather Conditions: **Measuring Device:** Water level indicator
Tidally Influenced: Yes X No **Remarks:**

Well or Piezometer Number	Date	Time	TOC Elevation (feet)*	Installed Well Depth (feet)*	Measured Well Depth (feet)*	Water Level Depth (feet)*	Groundwater Elevation (feet)*	Comments
MW-26	1-6-09	0856	28.25	5.90	obstructed	—		0.0
DMW-27	1-6-09	0910	28.79	33.88	6.55	33.63		0.0
MW-28	1-6-09	0834	28.36	13.08	unable to locate	12.99		
DMW-29 ²²⁰	1-6-09	1002	NM	33.44	23.5	—		0.2
DMW-30			28.50	33.20		—		
MW-31R	1-6-09	1523	8.37		5.15	14.21		1.7
MW-32			---	---				
MW-33	1-6-09	1659	27.97	14	obstructed	12.88		0.0
MW-34	1-6-09	1703	23.46	11.5	1.74	10.86		0.0
MW-35	1-6-09	1708	24.43	12.5	3.10	11.12		0.5
MW-36	1-6-09	1705	26.50	13	5.08	12.00		0.1
MW-37	1-6-09	1708	27.87	13	unable to locate	—		0.5
MW-38	1-6-09	1632	28.70	13	7.36	12.21		0.2
MW-39	1-7-09		28.88	12				
MW-40	1-6-09	1022	28.94	13	obstructed	—		0.0
MW-41	1-6-09	1024	27.92	13	6.30	12.50		0.0
MW-42	1-6-09	1026	28.92	13	7.35	12.51		0.0
MW-43	1-6-09	1034	28.60	13	partially obstructed 6.94	—		0.4
MW-44	1-6-09	0842	27.90	13.5	obstructed	—		0.0
MW-45	1-6-09	1132	27.26	13	6.92	could not locate		3.9
MW-46R	1-6-09	1124	9.64		7.66	14.41		0.0
MW-47	1-6-09	1014	29.74	13	unable to locate	—		
MW-48	1-6-09	0845	26.80	13	3.75	11.63		0.0
MW-49			28.85	13	unable to locate			
MW-50			28.56	13	unable to locate			

* All measurements to the nearest 0.01 foot



Tetra Tech NUS, Inc.

GROUNDWATER LEVEL MEASUREMENT SHEET

Project Name: PEN UST 21 **Project No.:** _____
Location: Site 21 **Personnel:** W.D. Olson/C. Odom
Weather Conditions: cloudy windy low 70's **Measuring Device:** Water level indicator
Tidally Influenced: Yes X No _____ **Remarks:** _____

Well or Piezometer Number	Date	Time	TOC Elevation (feet)*	Installed Well Depth (feet)*	Measured Well Depth (feet)*	Water Level depth (feet)*	Groundwater Elevation (feet)*	Comments
MW-51	1-6-09	1536	28.31	13	6.31	12.63		0.4
MW-52			29.22	13	could not be done	—		
MW-53	1-6-09 1-6-09	1048	28.80	13	6.45	12.09		0.0
MW-54	1-6-09 1-6-09	1514	9.18		6.68	14.41		0.0
MW-55					destroyed			
MW-56	1-6-09	1135			7.34 destroyed	13.68 could not be done		1.0
MW-57	1-6-09	1154			7.25	13.68 could not be done		1.8
MW-58	1-6-09	1623			6.42	12.45		3.1
MW-59	1-6-09	1612			6.01	12.65		0.2
MW-60	1-6-09	1624	8.39		6.39	12.52		0.1
MW-61	1-6-09	1604			7.50	14.45		7.9
MW-62	1-6-09	1548	8.22		6.60	13.61		8.9
MW-63	1-6-09	1608	7.91		6.27	14.48		10.4
MW-64	1-6-09	1553	8.05		6.62	14.44		0.6
MW-65	1-6-09	1556	8.43		6.98	14.15		0.7
MW-66	1-6-09	1558	8.57		7.15	14.22		0.3
MW-67	1-6-09	1725	7.86		5.75	14.38		0.77
MW-68					could not be done	—		
MW-69	1-6-09	1717	7.96		6.53	11.77		0.0
MW-70	1-6-09	1514	8.63		6.51	14.38		0.0
MW-71	1-6-09	1510	8.31		6.71	14.52		0.0
MW-72	1-6-09	1505	7.84		well needs repair (c & d) 7.54			
MW-73	1-6-09	1135	8.75		7.34	14.37		1.0
MW-74	1-6-09	1502	8.43		7.23	12.80		0.0
MW-75	1-6-09	1144	8.50		7.25	14.55		1.8
MW-76	1-6-09	1132	8.61	6.47		13.67		3.3

* All measurements to the nearest 0.01 foot



Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Page ___ of ___

Project Site Name: Site 21
 Project No.: _____

Sample ID No.: NAS21MW690109Sample Location: MW-69

Sampled By: _____

C.O.C. No.: _____

Type of Sample: _____

☐ Domestic Well Data☒ Monitoring Well Data☐ Other Well Type: _____☐ QA Sample Type: _____☒ Low Concentration☐ High Concentration

SAMPLING DATA:

Date: <u>1-7-09</u>	Color	pH	S.C.	Temp.	Turb	DO	ORP	SWL	Time
Time: <u>1125</u>	(Visual)	(S.U.)	(µS/cm)	(°C)	(NTU)	(mg/l)	(mV)	(feet below TOC)	
Method: <u>Low Flow</u>	<u>low</u>	<u>6.77</u>	<u>241</u>	<u>20.21</u>	<u>4.16</u>	<u>2.49</u>	<u>-42.4</u>	<u>-</u>	<u>1120</u>

PURGE DATA:

Date: <u>1-7-09</u>	Volume	pH	S.C.	Temp.	Turb	DO	ORP	SWL	Time
Method: <u>Low Flow</u>	<u>2 L</u>	<u>6.79</u>	<u>243</u>	<u>20.20</u>	<u>8.88</u>	<u>2.48</u>	<u>-43.7</u>	<u>-</u>	<u>1105</u>
Monitor Reading (ppm): <u>0.0</u>	<u>3 L</u>	<u>6.78</u>	<u>241</u>	<u>20.20</u>	<u>7.43</u>	<u>2.49</u>	<u>-47.5</u>	<u>-</u>	<u>1110</u>
Well Casing Diameter & Material	<u>4 L</u>	<u>6.78</u>	<u>241</u>	<u>20.21</u>	<u>5.14</u>	<u>2.42</u>	<u>-45.4</u>	<u>-</u>	<u>1115</u>
Type: <u>3/4" PVC</u>	<u>5 L</u>	<u>6.77</u>	<u>241</u>	<u>20.24</u>	<u>4.16</u>	<u>2.49</u>	<u>-42.4</u>	<u>-</u>	<u>1120</u>
Total Well Depth (TD): <u>11.94</u>									
Static Water Level (WL): <u>6.85</u>									
One Casing Volume (gal/L): <u>0.2</u>									
Start Purge (hrs): <u>1053</u>									
End Purge (hrs): <u>1126</u>									
Total Purge Time (min): <u>27</u>									
Total Vol. Purged (gal): <u>5</u>									

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
Lead, Manganese and Zinc	HNO ₃	1 X 500 mL Polyethylene	✓

OBSERVATIONS / NOTES:

well pad has been removed, well looks
cut down

Circle if Applicable:

MS/MSD

Duplicate ID No.: _____

Signature(s):

Project Site Name: _____
Project No.: _____

Sample ID No.: 1145P 21 MW 540/109

Sample Location: MW-39 24

Sampled By: _____

C.O.C. No.: _____

Type of Sample: _____

- ☐ Domestic Well Data
☐ Monitoring Well Data
☐ Other Well Type:
☐ QA Sample Type:

[1] Low Concentration

☐ High Concentration

SAMPLING DATA:

Date: 1-7-09	Color	pH	S.C.	Temp.	Turb	DO	ORP	SWL	Time
Time: 1400	(Visual)	(S.U.)	(µS/cm)	(°C)	(NTU)	(mg/l)	(mV)	(feet below TOC)	
Method: Low Flow	clear	6.75	510	20.63	3.12	158	-16.4	1.71	1355

PURGE DATA:

[illegible]

SAMPLE COLLECTION INFORMATION:

OBSERVATIONS / NOTES:

Pump battery died @ 3L
resumed pump @ 1335
new rate @ 400ul/min, slowest pump will run

Circle if Applicable:

MS/MSD

Duplicate ID No.:

Signature(s):

HW 2015

Project Site Name: Site 21 NIASP
Project No.: _____

Sample ID No.: NASP21-mw28-0109

Sample Location: MW-28

Sampled By: C. Odion

C.O.C. No.:

Type of Sample: _____

- ☐ Domestic Well Data
☒ Monitoring Well Data
☐ Other Well Type:
☐ QA Sample Type:

[] Low Concentration

☐ High Concentration

SAMPLING DATA:

Date: 1-7-09	Color	pH	S.C.	Temp.	Turb	DO	ORP	SWL	Time
Time: 1320	(Visual)	(S.U.)	(mS/cm)	(°C)	(NTU)	(mg/l)	(mV)	(feet below TOC)	
Method: low flow	clear	6.59	0.403	21.72	7	0.57	-69.3	6.14	1320

PURGE DATA:[illegible]

SAMPLE COLLECTION INFORMATION:

OBSERVATIONS / NOTES:

Circle if Applicable:

MS/MSD

Duplicate ID No.:

Signature(s):

Chen

Project Site Name: S.A. 21 NASP
Project No.: CTO 56

Sample ID No.: NASP21-mw44-0109

Sample Location: MW-44

Sampled By: C. Edon

C.O.C. No.: _____

Type of Sample: _____

- ☐ Domestic Well Data
☒ Monitoring Well Data
☐ Other Well Type:
☐ QA Sample Type:

☐ Low Concentration

☐ High Concentration

SAMPLING DATA:

Date: 1-7-09	Color	pH	S.C.	Temp.	Turb	DO	ORP	SWL	Time
Time: 12:55	(Visual)	(S.U.)	(MUS/cm)	(°C)	(NTU)	(mg/l)	(mV)	(feet below TOC)	
Method: low flow	clear	6.81	0.407	20.52	14	0.24	-21.8	5.31	12:55

PURGE DATA:

[illegible]

SAMPLE COLLECTION INFORMATION:

[illegible]**OBSERVATIONS / NOTES:**

Circle if Applicable:

MS/MSD

Duplicate ID No.:

Signature(s):

Dean

Project Site Name:

S. 421 NASP

Project No.:

CTO 56

Sample ID No.: NASp21-mw10-0109

NASp21-mw10-0109

Sample Location:

MW-10

Sampled By:

C. Od.

C.O.C. No.:

Type of Sample:

☐ Low Concentration

☐ High Concentration

Domestic Well Data

Monitoring Well Data

Other Well Type:

QA Sample Type:

SAMPLING DATA:

Date: 1-7-09	Color	pH	S.C.	Temp.	Turb	DO	ORP	SWL	Time
Time: 1140	(Visual)	(S.U.)	(µS/cm)	(°C)	(NTU)	(mg/l)	(mV)	(feet below TOC)	
Method: Low flow	46	6.55	0.238	20.76	17	0.46	-144.7	3.14	1140

PURGE DATA:

[illegible]

SAMPLE COLLECTION INFORMATION:

[illegible]

OBSERVATIONS / NOTES:

--

Circle if Applicable:

MS/MSD

Duplicate ID No.:

Signature(s):



Project Site Name:

Project No.:

Site 2: NASP

11260583

Sample ID No.: NASP21-mw46R-0109

Sample Location:

MW-45R 46R

Sampled By:

✓

C.O.C. No.:

Type of Sample:

[1] Low Concentration

☐ High Concentration

Domestic Well Data

Monitoring Well Data

Other Well Type:

QA Sample Type:

SAMPLING DATA:

Date: 1-8-09	Color	pH	S.C.	Temp.	Turb	DO	ORP	SWL	Time
Time: 0830	(Visual)	(S.U.)	(mg/cm)	(°C)	(NTU)	(mg/l)	(mV)	(feet below TOC)	
Method: low flow	4L	6.80	0.421	72.08	2	0.45	-213.2	-7.79	0830

PURGE DATA:[illegible]

SAMPLE COLLECTION INFORMATION:

[illegible]**OBSERVATIONS / NOTES:**

Circle if Applicable:

MS/MSD

Duplicate ID No.:

Signature(s):

Signature(s):

Project Site Name:

Project No.:

Site 21 NIASP

112600583

Sample ID No.: NASP21-mw01-0109

Sample Location:

Sampled By:

C.O.C. No.:

Type of Sample:

[] Low Concentration

☐ High Concentration

Domestic Well Data

☒ Monitoring Well Data

☐ Other Well Type:

QA Sample Type:

SAMPLING DATA:

Date: 1-8-09	Color (Visual)	pH (S.U.)	S.C. (mg /cm)	Temp. (°C)	Turb (NTU)	DO (mg/l)	ORP (mV)	SWL (feet below TOC)	Time
Time: 0920									
Method: low flow									
	62	6.45	0.54	20.1	0	0.82	-55.7	-	0920

PURGE DATA:

[illegible]

SAMPLE COLLECTION INFORMATION:

[illegible]

OBSERVATIONS / NOTES:


Unable to acquire TD or SWL due to leakage/casing

Circle if Applicable:

MS/MSD

Duplicate ID No.:

Signature(s):

Signature(s): 

Project Site Name: SA 21 NASP
Project No.: CT056

Sample ID No.: NASP21-mw09-0109

Sample Location: MW-04

Sampled By: C. Odom

C.O.C. No.: _____

Type of Sample: _____

Domestic Well Data

☒ Monitoring Well Data

☐ Other Well Type:

QA Sample Type:

☐ Low Concentration

☐ High Concentration

SAMPLING DATA:

Date: 1-7-09	Color	pH	S.C.	Temp.	Turb	DO	ORP	SWL	Time
Time: 0950	(Visual)	(S.U.)	mg/cm	(°C)	(NTU)	(mg/l)	(mV)	(feet below TOC)	
Method: low flow	clear	6.50	0.220	20.86	10	6.69	-161.4	6.40	0950

PURGE DATA:[illegible]

SAMPLE COLLECTION INFORMATION:

OBSERVATIONS / NOTES:

Circle if Applicable:

MS/MSD

Duplicate ID No.:

Signature(s):

Lo



Page__ of __

☐ High Concentration

Com

Project Site Name: NASP 5.1.21
Project No.: CT056

Sample ID No.: NASP21-mw11-0109

Sample Location: MW-11

Sampled By: C. Oden

C.O.C. No.:

Type of Sample: _____

- ☐ Domestic Well Data
☒ Monitoring Well Data
☐ Other Well Type:
☐ QA Sample Type:

[] Low Concentration

☐ High Concentration

SAMPLING DATA:

Date: 1-7-09	Color	pH	S.C.	Temp.	Turb	DO	ORP	SWL	Time
Time: 1105	(Visual)	(S.U.)	(µS/cm)	(°C)	(NTU)	(mg/l)	(mV)	(feet below TOC)	
Method: low flow	1225	6.70	0.50	21.83	16	0.84	-107.4	6.34	1105

PURGE DATA:[illegible]

SAMPLE COLLECTION INFORMATION:

[illegible]**OBSERVATIONS / NOTES:**

Circle if Applicable:

MS/MSD

Duplicate ID No.:

Signature(s):

600

Project Site Name: 51621
Project No.:

Sample ID No.: N45A 21 Mw210109

Sample Location: MW-21

Sampled By: Wise

C.O.C. No.:

Type of Sample: _____

- Low Concentration

High Concentration

Domestic Well Data

Monitoring Well Data

☐ Other Well Type:

QA Sample Type:

SAMPLING DATA:

Date: 1.7.09	Color	pH	S.C.	Temp.	Turb	DO	ORP	SWL	Time
Time: 1505	(Visual)	(S.U.)	(mg/cm)	(°C)	(NTU)	(mg/l)	(mV)	(feet below TOC)	
Method: Low Flow	clear	6.58	0.294	22.67	2.11	0.37	-108.7	7.35	1505

PURGE DATA:

Date: 1-7-09	Volume	pH	S.C.	Temp.	Turb	DO	ORP	SWL	Time
Method: Low Flow	1 gal	6.61	0.292	22.78	2.70	0.37	-93.9	7.36	1445
Monitor Reading (ppm): 0.6	1 1/4 g	6.60	0.292	22.69	2.22	0.31	-80.5	7.35	1450
Well Casing Diameter & Material	1 1/2"	6.58	0.293	22.72	2.43	0.28	-90.4	7.36	1455
Type: 2" PVC	1 3/4"	6.58	0.294	22.67	2.11	0.37	-108.7	7.35	1500

Total Well Depth (TD): 13.61

Static Water Level (WL): 7.35

One Casing Volume (gal/L): 0.92

Start Purge (hrs): 1430

End Purge (hrs): 15 00

Total Purge Time (min): 40

Total Vol. Purged (gal/L): 1.75

SAMPLE COLLECTION INFORMATION:

OBSERVATIONS / NOTES:**Circle if Applicable:**

MS/MSD

Duplicate ID No.:

Signature(s):

Project Site Name:	<u>Site 21</u>	Sample ID No.:	<u>WASP 21 MW 430109</u>
Project No.:	<u> </u>	Sample Location:	<u>MW-43</u>
	<u> </u>	Sampled By:	<u> </u>
<input type="checkbox"/> Domestic Well Data		C.O.C. No.:	<u> </u>
<input checked="" type="checkbox"/> Monitoring Well Data		Type of Sample:	
<input type="checkbox"/> Other Well Type:	<u> </u>	<input checked="" type="checkbox"/> Low Concentration	
<input type="checkbox"/> QA Sample Type:	<u> </u>	<input type="checkbox"/> High Concentration	

SAMPLING DATA:

Date: 1-7-09	Color	pH	S.C.	Temp.	Turb	DO	ORP	SWL	Time
Time: 1555									
Method: Low Flow	(Visual)	(S.U.)	(µS/cm)	(°C)	(NTU)	(mg/l)	(mV)	(feet below TOC)	
	Clear	6.73	0.553	22.19	4.18	0.27	-292.3	7.01	1555

PURGE DATA:[illegible]

SAMPLE COLLECTION INFORMATION:

[illegible]**OBSERVATIONS / NOTES:**

Purge water has sulfur odor
turns dark w/ exposure to air

Circle if Applicable:		Signature(s):
MS/MSD	Duplicate ID No.:	

GROUNDWATER SAMPLE LOG SHEET

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Project Site Name: Site 21
 Project No.: _____

Sample ID No.: NASP 21 MW360109Sample Location: MW-36Sampled By: WAO

C.O.C. No.: _____

Type of Sample: _____

- ☐ Domestic Well Data
☒ Monitoring Well Data
☐ Other Well Type: _____
☐ QA Sample Type: _____

☒ Low Concentration☐ High Concentration

SAMPLING DATA:

Date:	Color	pH	S.C.	Temp.	Turb	DO	ORP	SWL	Time
<u>1-7-09</u>	(Visual)	(S.U.)	(μS/cm)	(°C)	(NTU)	(mg/l)	(mV)	(feet below TOC)	
Time: <u>1215</u>									
Method: <u>Low Flow</u>	<u>clean</u>	<u>6.93</u>	<u>310</u>	<u>21.57</u>	<u>4.41</u>	<u>0.43</u>	<u>-41.5</u>	<u>5.10</u>	<u>1215</u>

PURGE DATA:

Date:	Volume	pH	S.C.	Temp.	Turb	DO	ORP	SWL	Time
<u>1-7-09</u>									
Method: <u>Low Flow</u>	<u>2L</u>	<u>6.61</u>	<u>282</u>	<u>21.45</u>	<u>9.72</u>	<u>1.80</u>	<u>-18.7</u>	<u>5.11</u>	<u>1150</u>
Monitor Reading (ppm): <u>0.6</u>	<u>3L</u>	<u>6.57</u>	<u>302</u>	<u>21.56</u>	<u>6.21</u>	<u>0.96</u>	<u>-30.7</u>	<u>5.11</u>	<u>1155</u>
Well Casing Diameter & Material	<u>4L</u>	<u>6.55</u>	<u>307</u>	<u>21.57</u>	<u>5.04</u>	<u>0.62</u>	<u>-32.9</u>	<u>5.10</u>	<u>1200</u>
Type: <u>1" PVC</u>	<u>5L</u>	<u>6.55</u>	<u>312</u>	<u>21.55</u>	<u>3.74</u>	<u>0.48</u>	<u>-36.5</u>	<u>5.10</u>	<u>1205</u>
Total Well Depth (TD): <u>12.02</u>	<u>6L</u>	<u>6.53</u>	<u>310</u>	<u>21.57</u>	<u>4.41</u>	<u>0.43</u>	<u>-41.5</u>	<u>5.10</u>	<u>1210</u>
Static Water Level (WL): <u>5.02</u>									
One Casing Volume (gal/L): <u>0.28</u>									
Start Purge (hrs): <u>1140</u>									
End Purge (hrs): <u>1210</u>									
Total Purge Time (min): <u>30</u>									
Total Vol. Purged (gal/L): <u>6L</u>									

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
Lead, Manganese and Zinc	HNO ₃	1 X 500 mL Polyethylene	✓

OBSERVATIONS / NOTES:

Slippery WAO
1-7-09

Circle if Applicable:

MS/MSD

Duplicate ID No.: _____

Signature(s):



Project Site Name: Site 21 NAS Pensacola
Project No.: CD 56

Sample ID No.: NASP21-MW48-0109

Sample Location: ~~MW 44~~ mw48

Sampled By:

C.O.C. No.:

Type of Sample: _____

Domestic Well Data

~~Monitoring Well Data~~

☐ Other Well Type:

QA Sample Type:

☐ Low Concentration

High Concentration

SAMPLING DATA:

Date: 1-7-08	Color	pH	S.C.	Temp.	Turb	DO	ORP	SWL	Time
Time: 1645	(Visual)	(S.U.)	(µS/cm)	(°C)	(NTU)	(mg/l)	(mV)	(feet below TOC)	
Method: low flow	clear	6.58	0.277	20.27	0.08	1.21	-100.5	3.80	1645

PURGE DATA:[illegible]

SAMPLE COLLECTION INFORMATION:

[illegible]**OBSERVATIONS / NOTES:**

orange sed. on tubing

Circle if Applicable:

MS/MSD

Duplicate ID No.:

Signature(s):

mt Soker



Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Page ___ of ___

Project Site Name: Site 21
Project No.: _____Sample ID No.: NASP 21 MW 730109Sample Location: MW-73

Sampled By: _____

C.O.C. No.: _____

Type of Sample: _____

- ☐ Domestic Well Data
☐ Monitoring Well Data
☐ Other Well Type: _____
☐ QA Sample Type: _____

☒ Low Concentration☐ High Concentration

SAMPLING DATA:

Date: <u>1-8-10</u>	Color	pH	S.C.	Temp.	Turb	DO	ORP	SWL	Time
Time: <u>0835</u>	(Visual)	(S.U.)	(µS/cm)	(°C)	(NTU)	(mg/l)	(mV)	(feet below TOC)	
Method: <u>Low Flow</u>	<u>clear</u>	<u>6.37</u>	<u>180</u>	<u>20.22</u>	<u>0.00</u>	<u>0.27</u>	<u>-122.0</u>	<u>—</u>	<u>0835</u>

PURGE DATA:

Date: <u>1-8-10</u>	Volume	pH	S.C.	Temp.	Turb	DO	ORP	SWL	Time
Method: <u>Low Flow</u>	<u>2 L</u>	<u>6.37</u>	<u>187</u>	<u>19.98</u>	<u>3.07</u>	<u>0.38</u>	<u>-95.0</u>	<u>—</u>	<u>0815</u>
Monitor Reading (ppm): <u>0.0</u>	<u>3 L</u>	<u>6.36</u>	<u>182</u>	<u>20.11</u>	<u>0.00</u>	<u>0.35</u>	<u>-85.9</u>	<u>—</u>	<u>0820</u>
Well Casing Diameter & Material	<u>4 L</u>	<u>6.36</u>	<u>180</u>	<u>20.26</u>	<u>0.00</u>	<u>0.27</u>	<u>-116.6</u>	<u>—</u>	<u>0825</u>
Type: <u>3/4" PVC</u>	<u>5 L</u>	<u>6.37</u>	<u>180</u>	<u>20.22</u>	<u>0.00</u>	<u>0.27</u>	<u>-122.0</u>	<u>—</u>	<u>0830</u>
Total Well Depth (TD): <u>14.37</u>							<u>-122.0</u>		
Static Water Level (WL): <u>7.33</u>							<u>1-8-10</u>		
One Casing Volume (gal): <u>0.14</u>									
Start Purge (hrs): <u>0805</u>									
End Purge (hrs): <u>0830</u>									
Total Purge Time (min): <u>25</u>									
Total Vol. Purged (gal): <u>5</u>									

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
VOCs	HCl	3 x 40 mL glass vial	<u>2X</u>
Lead, Manganese and Zinc	HNO ₃	1 X 500 mL Polyethylene	<u>2X</u>

OBSERVATIONS / NOTES:

Field dup collectedwell probe won't fit in well w/ logging, no SWL during purge

Circle if Applicable:

MS/MSD

Duplicate ID No.:

NASP 21 MW 730109D

Signature(s):

[Signature]

APPENDIX B
2007 AND 2009 VALIDATED LABORATORY DATA



Tetra Tech NUS

INTERNAL CORRESPONDENCE

TO: MR. G. WALKER **DATE: JULY 20, 2007**
FROM: EDWARD SEDLMYER **COPIES: DV FILE**
SUBJECT: ORGANIC DATA VALIDATION- VOA/PAH/TPH
CTO 0056, NAS PENSACOLA
SDG CTO056-5

SAMPLES: 13/Aqueous

PEN21GW4304	PEN21GW5302	PEN21GW5302D
PEN21GW6001	PEN21GW6101	PEN21GW6201
PEN21GW6301	PEN21GW6401	PEN21GW6401D
PEN21GW6501	PEN21GW6601	TB050807
TRIP BLANK		

OVERVIEW

The sample set for CTO 0056, NAS Pensacola, SDG CTO056-5 consists of two (2) trip blanks and eleven (11) aqueous environmental samples. The following field duplicate pairs were associated with this SDG: PEN21GW5302 / PEN21GW5302D and PEN21GW6401 / PEN21GW6401D. All samples were analyzed for BTEX volatile organic compounds (VOCs), polynuclear aromatic hydrocarbons (PAHs), and total petroleum hydrocarbon (TPH). The trip blanks were analyzed for VOCs only.

The samples were collected by TetraTech NUS on April 25, May 8, and 9, 2007 and analyzed by Katahdin Analytical Services, Inc. All analyses were conducted in accordance with SW-846 Methods 8260B, 8270SIM, and FDEP FL-PRO (TPH) analytical and reporting protocols. The data contained in this SDG were validated with regard to the following parameters:

- * • Data completeness
- Holding times
- Initial/continuing calibrations
- * • Laboratory method blank results
- * • Field Duplicate Results
- * • Detection Limits

The symbol (*) indicates that quality control criteria were met for this parameter. Problems affecting data quality are discussed below; documentation supporting these findings is presented in Appendix C. Qualified Analytical results are presented in Appendix A. Results as reported by the laboratory are presented in Appendix B.

Volatiles

The trip blank was analyzed 27 days after sample collection. The non-detected results have been qualified as estimated (UJ).

PAHs

Samples PEN21GW6101, PEN21GW6201, and PEN21GW6401D, were re-extracted by the laboratory because of surrogate recoveries below the quality control limits. The samples were re-extracted eight days outside of the extraction hold time. The original extracted results were used for validation. No qualification of the data was necessary because all recoveries were greater than 10%.

Samples PEN21GW6001, PEN21GW6101, PEN21GW6201, PEN21GW6301, PEN21GW6401, PEN21GW6401D, and PEN21GW6501 required dilutions for naphthalene, 1-methylnaphthalene, and/or 2-methylnaphthalene because of concentrations greater than the linear calibration range of the instrument. The naphthalene, 1-methylnaphthalene, and/or 2-methylnaphthalene results were reported from the diluted analyses. All other results are reported from the undiluted analysis.

The continuing calibration analyzed on 05/17/07 @11:13 had percent differences greater than 25% for dibenzo(a,h)anthracene and indeno(1,2,3-cd)pyrene. No action was taken on this basis because the percent difference was less than 90%.

The continuing calibration analyzed on 05/18/07 @10:12 had percent differences greater than 25% for pyrene, benzo(a)anthracene, benzo(b)fluoranthene, and benzo(g,h,i)perylene. No action was taken on this basis because the percent difference was less than 90%.

TPH

No qualification of the data was necessary.

Additional Comments:

Positive results less than the reporting limit (RL) were qualified as estimated "J", due to uncertainty near the detection limit.

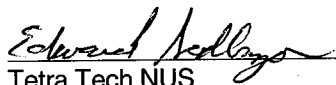
EXECUTIVE SUMMARY

Laboratory Performance Issues: Hold time was exceeded for the trip blank. Continuing calibration noncompliances were noted for the PAH fraction.

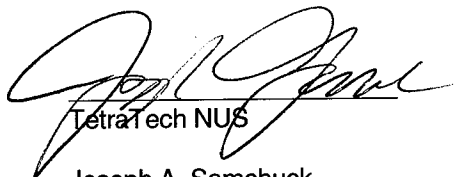
Other Factors Affecting Data Quality: None.

The data for these analyses were reviewed with reference to the EPA Functional Guidelines for Organic Data Validation (10/99) and the Department of Defense (DoD) document entitled "Quality Systems Manual (QSM) for Environmental Laboratories" (January 2006). The text of this report has been formulated to address only those problem areas affecting data quality.

"I attest that the data referenced herein were validated according to the agreed upon validation criteria as specified in the DoD QSM for Environmental Laboratories.


Tetra Tech NUS

Edward Sedlmyer
Chemist/Data Validator


Tetra Tech NUS

Joseph A. Samchuck
Data Validation Quality Assurance Officer

Attachments:

Appendix A – Qualified Analytical Results
Appendix B – Results as Reported by the Laboratory
Appendix C – Support Documentation

APPENDIX A

QUALIFIED ANALYTICAL RESULTS

Data Validation Qualifier Codes:

- A = Lab Blank Contamination
- B = Field Blank Contamination
- C = Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
- C01 = GC/MS Tuning Noncompliance
- D = MS/MSD Recovery Noncompliance
- E = LCS/LCSD Recovery Noncompliance
- F = Lab Duplicate Imprecision
- G = Field Duplicate Imprecision
- H = Holding Time Exceedance
- I = ICP Serial Dilution Noncompliance
- J = GFAA PDS - GFAA MSA's $r < 0.995$ / ICP PDS Recovery Noncompliance
- K = ICP Interference - includes ICS % R Noncompliance
- L = Instrument Calibration Range Exceedance
- M = Sample Preservation Noncompliance
- N = Internal Standard Noncompliance
- N01 = Internal Standard Recovery Noncompliance Dioxins
- N02 = Recovery Standard Noncompliance Dioxins
- N03 = Clean-up Standard Noncompliance Dioxins
- O = Poor Instrument Performance (e.g. base-line drifting)
- P = Uncertainty near detection limit ($< 2 \times$ IDL for inorganics and $< \text{CRQL}$ for organics)
- Q = Other problems (can encompass a number of issues; e.g. chromatography, interferences, etc.)
- R = Surrogates Recovery Noncompliance
- S = Pesticide/PCB Resolution
- T = % Breakdown Noncompliance for DDT and Endrin
- U = % Difference between columns/detectors $> 25\%$ for positive results determined via GC/HPLC
- V = Non-linear calibrations; correlation coefficient $r < 0.995$
- W = EMPC result
- X = Signal to noise response drop
- Y = Percent solids $< 30\%$
- Z = Uncertainty at 2 sigma deviation is greater than sample activity

PROJ_NO: 00583

SDG: CTO056-5 MEDIA: WATER DATA FRACTION: OV

nsample	PEN21GW4304	nsample	PEN21GW5302	nsample	PEN21GW5302D
samp_date	5/9/2007	samp_date	5/9/2007	samp_date	5/9/2007
lab_id	SA2211-4	lab_id	SA2211-1	lab_id	SA2211-2
qc_type	NM	qc_type	NM	qc_type	NM
units	UG/L	units	UG/L	units	UG/L
Pct_Solids	0.0	Pct_Solids	0.0	Pct_Solids	0.0
DUP_OF:		DUP_OF:		DUP_OF:	PEN21GW5302

Parameter	Result	Val	Qual	Qual
				Code
BENZENE	1			
ETHYLBENZENE	0.3	U		
M+P-XYLENES	1	U		
O-XYLENE	0.4	U		
TOLUENE	0.4	U		
TOTAL XYLENES	1	U		

Parameter	Result	Val	Qual	Qual
				Code
BENZENE	0.5	U		
ETHYLBENZENE	0.3	U		
M+P-XYLENES	7			
O-XYLENE	1			
TOLUENE	0.4	U		
TOTAL XYLENES	8			

Parameter	Result	Val	Qual	Qual
				Code
BENZENE	0.5	U		
ETHYLBENZENE	0.3	U		
M+P-XYLENES	8			
O-XYLENE	1			
TOLUENE	0.4	U		
TOTAL XYLENES	9			

PROJ_NO: 00583

SDG: CTO056-5 MEDIA: WATER DATA FRACTION: OV

nsample PEN21GW6001
samp_date 5/8/2007
lab_id SA2172-5
qc_type NM
units UG/L
Pct_Solids 0.0
DUP_OF:

nsample
samp_date
lab_id
qc_type
units
Pct_Solids
DUP_OF:

PEN21GW6101
5/8/2007
SA2172-3
NM
UG/L
0.0

nsample
samp_date
lab_id
qc_type
units
Pct_Solids
DUP_OF:

PEN21GW6201
5/8/2007
SA2172-4
NM
UG/L
0.0

Parameter	Result	Val Qual	Qual Code
BENZENE	0.5	U	
ETHYLBENZENE	0.3	U	
M+P-XYLENES	1	U	
O-XYLENE	0.4	U	
TOLUENE	0.4	U	
TOTAL XYLENES	1	U	

Parameter	Result	Val Qual	Qual Code
BENZENE	0.5	U	
ETHYLBENZENE	0.3	U	
M+P-XYLENES	1	U	
O-XYLENE	0.4	U	
TOLUENE	0.4	U	
TOTAL XYLENES	1	U	

Parameter	Result	Val Qual	Qual Code
BENZENE	0.5	U	
ETHYLBENZENE	2		
M+P-XYLENES	12		
O-XYLENE	1		
TOLUENE	0.4	U	
TOTAL XYLENES	13		

PROJ_NO: 00583

SDG: CTO056-5 MEDIA: WATER DATA FRACTION: OV

nsample PEN21GW6301
samp_date 5/8/2007
lab_id SA2172-8
qc_type NM
units UG/L
Pct_Solids 0.0
DUP_OF:

nsample
samp_date
lab_id
qc_type
units
Pct_Solids
DUP_OF:

PEN21GW6401
5/8/2007
SA2172-1
NM
UG/L
0.0

nsample
samp_date
lab_id
qc_type
units
Pct_Solids
DUP_OF:

PEN21GW6401D
5/8/2007
SA2172-2
NM
UG/L
0.0
PEN21GW6401

Parameter	Result	Val Qual	Qual Code
BENZENE	0.5	U	
ETHYLBENZENE	0.3	U	
M+P-XYLENES	1	U	
O-XYLENE	0.4	U	
TOLUENE	0.4	U	
TOTAL XYLENES	1	U	

Parameter	Result	Val Qual	Qual Code
BENZENE	0.5	U	
ETHYLBENZENE	0.3	U	
M+P-XYLENES	1	U	
O-XYLENE	0.4	U	
TOLUENE	0.4	U	
TOTAL XYLENES	1	U	

Parameter	Result	Val Qual	Qual Code
BENZENE	0.5	U	
ETHYLBENZENE	0.3	U	
M+P-XYLENES	1	U	
O-XYLENE	0.4	U	
TOLUENE	0.4	U	
TOTAL XYLENES	1	U	

PROJ_NO: 00583

SDG: CTO056-5 MEDIA: WATER DATA FRACTION: OV

nsample	PEN21GW6501	nsample	PEN21GW6601	nsample	TB050807
samp_date	5/8/2007	samp_date	5/8/2007	samp_date	5/8/2007
lab_id	SA2172-7	lab_id	SA2172-13	lab_id	SA2172-6
qc_type	NM	qc_type	NM	qc_type	NM
units	UG/L	units	UG/L	units	UG/L
Pct_Solids	0.0	Pct_Solids	0.0	Pct_Solids	0.0
DUP_OF:		DUP_OF:		DUP_OF:	

Parameter	Result	Val	Qual	Qual
				Code
BENZENE	0.5	U		
ETHYLBENZENE	0.8	J	P	
M+P-XYLENES	1	J	P	
O-XYLENE	0.4	U		
TOLUENE	0.4	U		
TOTAL XYLENES	1	J	P	

Parameter	Result	Val	Qual	Qual
				Code
BENZENE	0.5	U		
ETHYLBENZENE	0.3	U		
M+P-XYLENES	1	U		
O-XYLENE	0.4	U		
TOLUENE	0.4	U		
TOTAL XYLENES	1	U		

Parameter	Result	Val	Qual	Qual
				Code
BENZENE	0.5	U		
ETHYLBENZENE	0.3	U		
M+P-XYLENES	1	U		
O-XYLENE	0.4	U		
TOLUENE	0.4	U		
TOTAL XYLENES	1	U		

PROJ_NO: 00583

SDG: CTO056-5 MEDIA: WATER DATA FRACTION: OV

nsample TRIP BLANK

samp_date 4/25/2007

lab_id SA2211-5

qc_type NM

units UG/L

Pct_Solids 0.0

DUP_OF:

Parameter	Result	Val	Qual	Qual
BENZENE	0.5	UJ		H
ETHYLBENZENE	0.3	UJ		H
M+P-XYLENES	1	UJ		H
O-XYLENE	0.4	UJ		H
TOLUENE	0.4	UJ		H
TOTAL XYLENES	1	UJ		H

PROJ_NO: 00583

SDG: CTO056-5 MEDIA: WATER DATA FRACTION: PAH

nsample PEN21GW4304
samp_date 5/9/2007
lab_id SA2211-4
qc_type NM
units UG/L
Pct_Solids 0.0
DUP_OF:

nsample PEN21GW5302
samp_date 5/9/2007
lab_id SA2211-1
qc_type NM
units UG/L
Pct_Solids 0.0
DUP_OF:

nsample PEN21GW5302D
samp_date 5/9/2007
lab_id SA2211-2
qc_type NM
units UG/L
Pct_Solids 0.0
DUP_OF:

Parameter	Result	Lab Qual	Val Qual	Qual Code
1-METHYLNAPHTHALENE	4			
2-METHYLNAPHTHALENE	0.07	U	U	
ACENAPHTHENE	0.2	I	J	P
ACENAPHTHYLENE	0.06	U	U	
ANTHRACENE	0.06	U	U	
BENZO(A)ANTHRACENE	0.07	U	U	
BENZO(A)PYRENE	0.05	U	U	
BENZO(B)FLUORANTHENE	0.08	U	U	
BENZO(G,H,I)PERYLENE	0.09	U	U	
BENZO(K)FLUORANTHENE	0.1	U	U	
CHRYSENE	0.07	U	U	
DIBENZO(A,H)ANTHRACENE	0.1	U	U	
FLUORANTHENE	0.06	U	U	
FLUORENE	0.2	I	J	P
INDENO(1,2,3-CD)PYRENE	0.1	U	U	
NAPHTHALENE	0.3			
PHENANTHRENE	0.05	U	U	
PYRENE	0.06	U	U	

Parameter	Result	Lab Qual	Val Qual	Qual Code
1-METHYLNAPHTHALENE	2			
2-METHYLNAPHTHALENE	2	J		
ACENAPHTHENE	0.2	I	J	P
ACENAPHTHYLENE	0.06	U	U	
ANTHRACENE	0.06	U	U	
BENZO(A)ANTHRACENE	0.07	U	U	
BENZO(A)PYRENE	0.05	U	U	
BENZO(B)FLUORANTHENE	0.08	U	U	
BENZO(G,H,I)PERYLENE	0.09	U	U	
BENZO(K)FLUORANTHENE	0.1	U	U	
CHRYSENE	0.07	U	U	
DIBENZO(A,H)ANTHRACENE	0.1	U	U	
FLUORANTHENE	0.06	U	U	
FLUORENE	0.2	I	J	P
INDENO(1,2,3-CD)PYRENE	0.1	U	U	
NAPHTHALENE	1			
PHENANTHRENE	0.05	U	U	
PYRENE	0.06	U	U	

Parameter	Result	Lab Qual	Val Qual	Qual Code
1-METHYLNAPHTHALENE	2			
2-METHYLNAPHTHALENE	2	J		
ACENAPHTHENE	0.2	I	J	P
ACENAPHTHYLENE	0.06	U	U	
ANTHRACENE	0.06	U	U	
BENZO(A)ANTHRACENE	0.07	U	U	
BENZO(A)PYRENE	0.05	U	U	
BENZO(B)FLUORANTHENE	0.08	U	U	
BENZO(G,H,I)PERYLENE	0.09	U	U	
BENZO(K)FLUORANTHENE	0.1	U	U	
CHRYSENE	0.07	U	U	
DIBENZO(A,H)ANTHRACENE	0.1	U	U	
FLUORANTHENE	0.06	U	U	
FLUORENE	0.1	I	J	P
INDENO(1,2,3-CD)PYRENE	0.1	U	U	
NAPHTHALENE	1			
PHENANTHRENE	0.05	U	U	
PYRENE	0.06	U	U	

PROJ_NO: 00583

SDG: CTO056-5 MEDIA: WATER DATA FRACTION: PAH

nsample
smp_date 5/8/2007
lab_id SA2172-5
qc_type NM
units UG/L
Pct_Solids 0.0
DUP_OF:

nsample
smp_date 5/8/2007
lab_id SA2172-5DL
qc_type NM
units UG/L
Pct_Solids 0.0
DUP_OF:

nsample
smp_date 5/8/2007
lab_id SA2172-3
qc_type NM
units UG/L
Pct_Solids 0.0
DUP_OF:

Parameter	Result	Lab Qual	Val Qual	Qual Code
ACENAPHTHENE	0.4			
ACENAPHTHYLENE	2			
ANTHRACENE	0.06	U	U	
BENZO(A)ANTHRACENE	0.07	U	U	
BENZO(A)PYRENE	0.05	U	U	
BENZO(B)FLUORANTHENE	0.08	U	U	
BENZO(G,H,I)PERYLENE	0.09	U	U	
BENZO(K)FLUORANTHENE	0.1	U	U	
CHRYSENE	0.07	U	U	
DIBENZO(A,H)ANTHRACENE	0.1	U	U	
FLUORANTHENE	0.06	U	U	
FLUORENE	1			
INDENO(1,2,3-CD)PYRENE	0.1	U	U	
NAPHTHALENE	4			
PHENANTHRENE	0.05	U	U	
PYRENE	0.06	U	U	

Parameter	Result	Lab Qual	Val Qual	Qual Code
1-METHYLNAPHTHALENE	18			
2-METHYLNAPHTHALENE	22			

Parameter	Result	Lab Qual	Val Qual	Qual Code
ACENAPHTHENE	0.6			
ACENAPHTHYLENE	0.06	U	U	
ANTHRACENE	0.06	U	U	
BENZO(A)ANTHRACENE	0.07	U	U	
BENZO(A)PYRENE	0.05	U	U	
BENZO(B)FLUORANTHENE	0.08	U	U	
BENZO(G,H,I)PERYLENE	0.09	U	U	
BENZO(K)FLUORANTHENE	0.1	U	U	
CHRYSENE	0.07	U	U	
DIBENZO(A,H)ANTHRACENE	0.1	U	U	
FLUORANTHENE	0.06	U	U	
FLUORENE	0.4			
INDENO(1,2,3-CD)PYRENE	0.1	U	U	
PHENANTHRENE	0.05	U	U	
PYRENE	0.06	U	U	

PROJ_NO: 00583

SDG: CTO056-5 MEDIA: WATER DATA FRACTION: PAH

nsample
smp_date
lab_id
qc_type
units
Pct_Solids
DUP_OF:

nsample
smp_date
lab_id
qc_type
units
Pct_Solids
DUP_OF:

nsample
smp_date
lab_id
qc_type
units
Pct_Solids
DUP_OF:

Parameter	Result	Lab Qual	Val Qual	Qual Code
1-METHYLNAPHTHALENE	81			
2-METHYLNAPHTHALENE	110			
NAPHTHALENE	110			

Parameter	Result	Lab Qual	Val Qual	Qual Code
ACENAPHTHENE	0.5			
ACENAPHTHYLENE	0.06	U	U	
ANTHRACENE	0.06	U	U	
BENZO(A)ANTHRACENE	0.07	U	U	
BENZO(A)PYRENE	0.05	U	U	
BENZO(B)FLUORANTHENE	0.08	U	U	
BENZO(G,H,I)PERYLENE	0.09	U	U	
BENZO(K)FLUORANTHENE	0.1	U	U	
CHRYSENE	0.07	U	U	
DIBENZO(A,H)ANTHRACENE	0.1	U	U	
FLUORANTHENE	0.06	U	U	
FLUORENE	0.5			
INDENO(1,2,3-CD)PYRENE	0.1	U	U	
PHENANTHRENE	0.05	U	U	
PYRENE	0.06	U	U	

Parameter	Result	Lab Qual	Val Qual	Qual Code
1-METHYLNAPHTHALENE	65			
2-METHYLNAPHTHALENE	81			
NAPHTHALENE	93			

PROJ_NO: 00583

SDG: CTO056-5 MEDIA: WATER DATA FRACTION: PAH

nsample
smp_date
lab_id
qc_type
units
Pct_Solids
DUP_OF:

nsample
smp_date
lab_id
qc_type
units
Pct_Solids
DUP_OF:

nsample
smp_date
lab_id
qc_type
units
Pct_Solids
DUP_OF:

Parameter	Result	Lab Qual	Val Qual	Qual Code
2-METHYLNAPHTHALENE	5			
ACENAPHTHENE	0.5			
ACENAPHTHYLENE	0.06	U	U	
ANTHRACENE	0.06	U	U	
BENZO(A)ANTHRACENE	0.07	U	U	
BENZO(A)PYRENE	0.05	U	U	
BENZO(B)FLUORANTHENE	0.08	U	U	
BENZO(G,H,I)PERYLENE	0.09	U	U	
BENZO(K)FLUORANTHENE	0.1	U	U	
CHRYSENE	0.07	U	U	
DIBENZO(A,H)ANTHRACENE	0.1	U	U	
FLUORANTHENE	0.06	U	U	
FLUORENE	0.5			
INDENO(1,2,3-CD)PYRENE	0.1	U	U	
NAPHTHALENE	0.9			
PHENANTHRENE	0.05	U	U	
PYRENE	0.06	U	U	

Parameter	Result	Lab Qual	Val Qual	Qual Code
1-METHYLNAPHTHALENE	6			

Parameter	Result	Lab Qual	Val Qual	Qual Code
ACENAPHTHENE	0.3			
ACENAPHTHYLENE	0.06	U	U	
ANTHRACENE	0.06	U	U	
BENZO(A)ANTHRACENE	0.07	U	U	
BENZO(A)PYRENE	0.05	U	U	
BENZO(B)FLUORANTHENE	0.08	U	U	
BENZO(G,H,I)PERYLENE	0.09	U	U	
BENZO(K)FLUORANTHENE	0.1	U	U	
CHRYSENE	0.07	U	U	
DIBENZO(A,H)ANTHRACENE	0.1	U	U	
FLUORANTHENE	0.06	U	U	
FLUORENE	0.4			
INDENO(1,2,3-CD)PYRENE	0.1	U	U	
NAPHTHALENE	1			
PHENANTHRENE	0.05	U	U	
PYRENE	0.06	U	U	

PROJ_NO: 00583

SDG: CTO056-5 MEDIA: WATER DATA FRACTION: PAH

nsample	PEN21GW6401D	nsample	PEN21GW6401D	nsample	PEN21GW6401DDL
samp_date	5/8/2007	samp_date	5/8/2007	samp_date	5/8/2007
lab_id	SA2172-2	lab_id	SA2172-2	lab_id	SA2172-2DL
qc_type	NM	qc_type	NM	qc_type	NM
units	UG/L	units	UG/L	units	UG/L
Pct_Solids	0.0	Pct_Solids	0.0	Pct_Solids	0.0
DUP_OF:	PEN21GW6401	DUP_OF:	PEN21GW6401	DUP_OF:	PEN21GW6401DL

Parameter	Result	Lab Qual	Val Qual
ACENAPHTHENE	0.3	U	U
ACENAPHTHYLENE	0.06	U	U
ANTHRACENE	0.06	U	U
BENZO(A)ANTHRACENE	0.07	U	U
BENZO(A)PYRENE	0.05	U	U
BENZO(B)FLUORANTHENE	0.08	U	U
BENZO(G,H,I)PERYLENE	0.09	U	U
BENZO(K)FLUORANTHENE	0.1	U	U
CHRYSENE	0.07	U	U
DIBENZO(A,H)ANTHRACENE	0.1	U	U
FLUORANTHENE	0.06	U	U
FLUORENE	0.4		
INDENO(1,2,3-CD)PYRENE	0.1	U	U
NAPHTHALENE	0.9		
PHENANTHRENE	0.05	U	U
PYRENE	0.06	U	U

Parameter	Result	Lab Qual	Val Qual
1-METHYLNAPHTHALENE	7		
2-METHYLNAPHTHALENE	10		

Parameter	Result	Lab Qual	Val Qual
1-METHYLNAPHTHALENE	7		
2-METHYLNAPHTHALENE	11		

PROJ_NO: 00583

SDG: CTO056-5 MEDIA: WATER DATA FRACTION: PAH

nsample
samp_date
lab_id
qc_type
units
Pct_Solids
DUP_OF:

nsample
samp_date
lab_id
qc_type
units
Pct_Solids
DUP_OF:

nsample
samp_date
lab_id
qc_type
units
Pct_Solids
DUP_OF:

Parameter	Result	Lab Qual	Val Qual	Qual Code
ACENAPHTHENE	0.4			
ACENAPHTHYLENE	0.4			
ANTHRACENE	0.06	U	U	
BENZO(A)ANTHRACENE	0.07	U	U	
BENZO(A)PYRENE	0.05	U	U	
BENZO(B)FLUORANTHENE	0.08	U	U	
BENZO(G,H,I)PERYLENE	0.09	U	U	
BENZO(K)FLUORANTHENE	0.1	U	U	
CHRYSENE	0.07	U	U	
DIBENZO(A,H)ANTHRACENE	0.1	U	U	
FLUORANTHENE	0.06	U	U	
FLUORENE	0.6			
INDENO(1,2,3-CD)PYRENE	0.1	U	U	
PHENANTHRENE	0.05	U	U	
PYRENE	0.06	U	U	

Parameter	Result	Lab Qual	Val Qual	Qual Code
1-METHYLNAPHTHALENE	16			
2-METHYLNAPHTHALENE	16			
NAPHTHALENE	8			

Parameter	Result	Lab Qual	Val Qual	Qual Code
1-METHYLNAPHTHALENE	0.2	U	U	
2-METHYLNAPHTHALENE	0.3			
ACENAPHTHENE	0.2	I	J	P
ACENAPHTHYLENE	0.06	U	U	
ANTHRACENE	0.06	U	U	
BENZO(A)ANTHRACENE	0.07	U	U	
BENZO(A)PYRENE	0.05	U	U	
BENZO(B)FLUORANTHENE	0.08	U	U	
BENZO(G,H,I)PERYLENE	0.09	U	U	
BENZO(K)FLUORANTHENE	0.1	U	U	
CHRYSENE	0.07	U	U	
DIBENZO(A,H)ANTHRACENE	0.1	U	U	
FLUORANTHENE	0.06	U	U	
FLUORENE	0.1	I	J	P
INDENO(1,2,3-CD)PYRENE	0.1	U	U	
NAPHTHALENE	0.1	I	J	P
PHENANTHRENE	0.2			
PYRENE	0.06	U	U	

PROJ_NO: 00583

SDG: CTO056-5 MEDIA: WATER DATA FRACTION: PET

nsample	PEN21GW4304RA2	nsample	PEN21GW5302DRA2	nsample	PEN21GW5302RA2
samp_date	5/9/2007	samp_date	5/9/2007	samp_date	5/9/2007
lab_id	SA2211-4RA2	lab_id	SA2211-2RA2	lab_id	SA2211-1RA2
qc_type	NM	qc_type	NM	qc_type	NM
units	UG/L	units	UG/L	units	UG/L
Pct_Solids	0.0	Pct_Solids	0.0	Pct_Solids	0.0
DUP_OF:		DUP_OF:	PEN21GW5302	DUP_OF:	

Parameter	Result	Lab Qual	Val Qual	Parameter	Result	Lab Qual	Val Qual
TPH (C08-C40)	3100			TPH (C08-C40)	950		

Parameter	Result	Lab Qual	Val Qual	Parameter	Result	Lab Qual	Val Qual
TPH (C08-C40)	1000			TPH (C08-C40)	1000		

PROJ_NO: 00583

SDG: CTO056-5 MEDIA: WATER DATA FRACTION: PET

nsample	PEN21GW6001DL2	nsample	PEN21GW6101	nsample	PEN21GW6201DL2						
samp_date	5/8/2007	samp_date	5/8/2007	samp_date	5/8/2007						
lab_id	SA2172-5DL2	lab_id	SA2172-3	lab_id	SA2172-4DL2						
qc_type	NM	qc_type	NM	qc_type	NM						
units	UG/L	units	UG/L	units	UG/L						
Pct_Solids	0.0	Pct_Solids	0.0	Pct_Solids	0.0						
DUP_OF:		DUP_OF:		DUP_OF:							
Parameter	Result	Lab Qual	Val Qual	Parameter	Result	Lab Qual	Val Qual				
TPH (C08-C40)	8800			TPH (C08-C40)	5300			TPH (C08-C40)	13000		

PROJ_NO: 00583

SDG: CTO056-5 MEDIA: WATER DATA FRACTION: PET

nsample	PEN21GW6301DL	nsample	PEN21GW6401DDL	nsample	PEN21GW6401DL						
samp_date	5/8/2007	samp_date	5/8/2007	samp_date	5/8/2007						
lab_id	SA2172-8DL	lab_id	SA2172-2DL	lab_id	SA2172-1DL						
qc_type	NM	qc_type	NM	qc_type	NM						
units	UG/L	units	UG/L	units	UG/L						
Pct_Solids	0.0	Pct_Solids	0.0	Pct_Solids	0.0						
DUP_OF:		DUP_OF:	PEN21GW6401	DUP_OF:							
Parameter	Result	Lab Qual	Val Qual	Parameter	Result	Lab Qual	Val Qual				
TPH (C08-C40)	11000			TPH (C08-C40)	12000			TPH (C08-C40)	10000		

PROJ_NO: 00583

SDG: CTO056-5 MEDIA: WATER DATA FRACTION: PET

nsample	PEN21GW6501DL	nsample	PEN21GW6601
samp_date	5/8/2007	samp_date	5/8/2007
lab_id	SA2172-7DL	lab_id	SA2172-13
qc_type	NM	qc_type	NM
units	UG/L	units	UG/L
Pct_Solids	0.0	Pct_Solids	0.0
DUP_OF:		DUP_OF:	

Parameter	Result	Lab Qual	Val Qual	Qual Code
TPH (C08-C40)	13000			

Parameter	Result	Lab Qual	Val Qual	Qual Code
TPH (C08-C40)	400	I	J	P

APPENDIX B

RESULTS AS REPORTED BY THE LABORATORY

KATAHDIN ANALYTICAL SERVICES
Report of Analytical Results

Client: Tetra Tech NUS, Inc
Project: CTO 056 NAS Pensacola
PO No:
Sample Date: 05/09/07
Received Date: 05/10/07
Extraction Date:
Analysis Date: 22-MAY-2007 17:00
Report Date: 05/30/2007
Matrix: WATER
% Solids: NA

Lab ID: SA2211-4
Client ID: PEN21GW4304
SDG: CTO056-5
Extracted by:
Extraction Method: SW846 5030
Analyst: SKT
Analysis Method: SW846 8260B
Lab Prep Batch: WG39163
Units: ug/l

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
108-88-3	Toluene	U	0.4	1.0	1	1	0.4
71-43-2	Benzene		1	1.0	1	1	0.5
100-41-4	Ethylbenzene	U	0.3	1.0	1	1	0.3
	m+p-Xylenes	U	1.0	1.0	2	2	1.0
95-47-6	o-Xylene	U	0.4	1.0	1	1	0.4
1330-20-7	Xylenes (total)	U	1	1.0	3	3	1
1868-53-7	Dibromofluoromethane		89%				
17060-07-0	1,2-Dichloroethane-D4		84%				
2037-26-5	Toluene-D8		86%				
460-00-4	P-Bromofluorobenzene		92%				

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KATAHDIN ANALYTICAL SERVICES
Report of Analytical Results

Client: Tetra Tech NUS, Inc
Project: CTO 056 NAS Pensacola
PO No:
Sample Date: 05/09/07
Received Date: 05/10/07
Extraction Date:
Analysis Date: 21-MAY-2007 18:18
Report Date: 05/30/2007
Matrix: WATER
% Solids: NA

Lab ID: SA2211-1
Client ID: PEN21GW5302
SDG: CTO056-5
Extracted by:
Extraction Method: SW846 5030
Analyst: SKT
Analysis Method: SW846 8260B
Lab Prep Batch: WG39146
Units: ug/l

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
108-88-3	Toluene	U	0.4	1.0	1	1	0.4
71-43-2	Benzene	U	0.5	1.0	1	1	0.5
100-41-4	Ethylbenzene	U	0.3	1.0	1	1	0.3
	m+p-Xylenes		7	1.0	2	2	1.0
95-47-6	o-Xylene		1	1.0	1	1	0.4
1330-20-7	Xylenes (total)		8	1.0	3	3	1
1868-53-7	Dibromofluoromethane		79%				
17060-07-0	1,2-Dichloroethane-D4		76%				
2037-26-5	Toluene-D8		86%				
460-00-4	P-Bromofluorobenzene		86%				

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KATAHDIN ANALYTICAL SERVICES
Report of Analytical Results

Client: Tetra Tech NUS, Inc
Project: CTO 056 NAS Pensacola
PO No:
Sample Date: 05/09/07
Received Date: 05/10/07
Extraction Date:
Analysis Date: 21-MAY-2007 18:48
Report Date: 05/30/2007
Matrix: WATER
% Solids: NA

Lab ID: SA2211-2
Client ID: PEN21GW5302D
SDG: CTO056-5
Extracted by:
Extraction Method: SW846 5030
Analyst: SKT
Analysis Method: SW846 8260B
Lab Prep Batch: WG39146
Units: ug/l

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
108-88-3	Toluene	U	0.4	1.0	1	1	0.4
71-43-2	Benzene	U	0.5	1.0	1	1	0.5
100-41-4	Ethylbenzene	U	0.3	1.0	1	1	0.3
	m+p-Xylenes		8	1.0	2	2	1.0
95-47-6	o-Xylene		1	1.0	1	1	0.4
1330-20-7	Xylenes (total)		9	1.0	3	3	1
1868-53-7	Dibromofluoromethane		81%				
17060-07-0	1,2-Dichloroethane-D4		75%				
2037-26-5	Toluene-D8		86%				
460-00-4	P-Bromofluorobenzene		87%				

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KATAHDIN ANALYTICAL SERVICES
Report of Analytical Results

Client: Tetra Tech NUS, Inc
Project: CTO 056 NAS Pensacola
PO No:
Sample Date: 05/08/07
Received Date: 05/09/07
Extraction Date:
Analysis Date: 19-MAY-2007 20:17
Report Date: 05/30/2007
Matrix: WATER
% Solids: NA

Lab ID: SA2172-5
Client ID: PEN21GW6001
SDG: CTO056-5
Extracted by:
Extraction Method: SW846 5030
Analyst: DMF
Analysis Method: SW846 8260B
Lab Prep Batch: WG39123
Units: ug/l

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
108-88-3	Toluene	U	0.4	1.0	1	1	0.4
71-43-2	Benzene	U	0.5	1.0	1	1	0.5
100-41-4	Ethylbenzene	U	0.3	1.0	1	1	0.3
	m+p-Xylenes	U	1.0	1.0	2	2	1.0
95-47-6	o-Xylene	U	0.4	1.0	1	1	0.4
1330-20-7	Xylenes (total)	U	1	1.0	3	3	1
1868-53-7	Dibromofluoromethane		79%				
17060-07-0	1,2-Dichloroethane-D4		72%				
2037-26-5	Toluene-D8		88%				
460-00-4	P-Bromofluorobenzene		89%				

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KATAHDIN ANALYTICAL SERVICES
Report of Analytical Results

Client: Tetra Tech NUS, Inc
Project: CTO 056 NAS Pensacola
PO No:
Sample Date: 05/08/07
Received Date: 05/09/07
Extraction Date:
Analysis Date: 19-MAY-2007 19:15
Report Date: 05/30/2007
Matrix: WATER
% Solids: NA

Lab ID: SA2172-3
Client ID: PEN21GW6101
SDG: CTO056-5
Extracted by:
Extraction Method: SW846 5030
Analyst: DMF
Analysis Method: SW846 8260B
Lab Prep Batch: WG39123
Units: ug/l

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
108-88-3	Toluene	U	0.4	1.0	1	1	0.4
71-43-2	Benzene	U	0.5	1.0	1	1	0.5
100-41-4	Ethylbenzene	U	0.3	1.0	1	1	0.3
	m+p-Xylenes	U	1.0	1.0	2	2	1.0
95-47-6	o-Xylene	U	0.4	1.0	1	1	0.4
1330-20-7	Xylenes (total)	U	1	1.0	3	3	1
1868-53-7	Dibromofluoromethane		80%				
17060-07-0	1,2-Dichloroethane-D4		75%				
2037-26-5	Toluene-D8		86%				
460-00-4	P-Bromofluorobenzene		89%				

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KATAHDIN ANALYTICAL SERVICES
Report of Analytical Results

Client: Tetra Tech NUS, Inc
Project: CTO 056 NAS Pensacola
PO No:
Sample Date: 05/08/07
Received Date: 05/09/07
Extraction Date:
Analysis Date: 19-MAY-2007 19:46
Report Date: 05/30/2007
Matrix: WATER
% Solids: NA

Lab ID: SA2172-4
Client ID: PEN21GW6201
SDG: CTO056-S
Extracted by:
Extraction Method: SW846 5030
Analyst: DMF
Analysis Method: SW846 8260B
Lab Prep Batch: WG39123
Units: ug/l

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
108-88-3	Toluene	U	0.4	1.0	1	1	0.4
71-43-2	Benzene	U	0.5	1.0	1	1	0.5
100-41-4	Ethylbenzene		2	1.0	1	1	0.3
	m+p-Xylenes		12	1.0	2	2	1.0
95-47-6	o-Xylene		1	1.0	1	1	0.4
1330-20-7	Xylenes (total)		13	1.0	3	3	1
1868-53-7	Dibromofluoromethane		80%				
17060-07-0	1,2-Dichloroethane-D4		73%				
2037-26-5	Toluene-D8		88%				
460-00-4	P-Bromofluorobenzene		91%				

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KATAHDIN ANALYTICAL SERVICES
Report of Analytical Results

Client: Tetra Tech NUS, Inc
Project: CTO 056 NAS Pensacola
PO No:
Sample Date: 05/08/07
Received Date: 05/09/07
Extraction Date:
Analysis Date: 21-MAY-2007 17:16
Report Date: 05/30/2007
Matrix: WATER
% Solids: NA

Lab ID: SA2172-8
Client ID: PEN21GW6301
SDG: CTO056-5
Extracted by:
Extraction Method: SW846 5030
Analyst: SKT
Analysis Method: SW846 8260B
Lab Prep Batch: WG39146
Units: ug/l

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
108-88-3	Toluene	U	0.4	1.0	1	1	0.4
71-43-2	Benzene	U	0.5	1.0	1	1	0.5
100-41-4	Ethylbenzene	U	0.3	1.0	1	1	0.3
	m+p-Xylenes	U	1.0	1.0	2	2	1.0
95-47-6	o-Xylene	U	0.4	1.0	1	1	0.4
1330-20-7	Xylenes (total)	U	1	1.0	3	3	1
1868-53-7	Dibromofluoromethane		82%				
17060-07-0	1,2-Dichloroethane-D4		73%				
2037-26-5	Toluene-D8		87%				
460-00-4	P-Bromofluorobenzene		93%				

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KATAHDIN ANALYTICAL SERVICES
Report of Analytical Results

Client: Tetra Tech NUS, Inc
Project: CTO 056 NAS Pensacola
PO No:
Sample Date: 05/08/07
Received Date: 05/09/07
Extraction Date:
Analysis Date: 19-MAY-2007 18:13
Report Date: 05/30/2007
Matrix: WATER
% Solids: NA

Lab ID: SA2172-1
Client ID: PEN21GW6401
SDG: CTO056-5
Extracted by:
Extraction Method: SW846 5030
Analyst: DMF
Analysis Method: SW846 8260B
Lab Prep Batch: WG39123
Units: ug/l

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
108-88-3	Toluene	U	0.4	1.0	1	1	0.4
71-43-2	Benzene	U	0.5	1.0	1	1	0.5
100-41-4	Ethylbenzene	U	0.3	1.0	1	1	0.3
	m+p-Xylenes	U	1.0	1.0	2	2	1.0
95-47-6	o-Xylene	U	0.4	1.0	1	1	0.4
1330-20-7	Xylenes (total)	U	1	1.0	3	3	1
1868-53-7	Dibromofluoromethane		89%				
17060-07-0	1,2-Dichloroethane-D4		87%				
2037-26-5	Toluene-D8		87%				
460-00-4	P-Bromofluorobenzene		91%				

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KATAHDIN ANALYTICAL SERVICES
Report of Analytical Results

Client: Tetra Tech NUS, Inc
Project: CTO 056 NAS Pensacola
PO No:
Sample Date: 05/08/07
Received Date: 05/09/07
Extraction Date:
Analysis Date: 19-MAY-2007 18:44
Report Date: 05/30/2007
Matrix: WATER
% Solids: NA

Lab ID: SA2172-2
Client ID: PEN21GW6401D
SDG: CTO056-5
Extracted by:
Extraction Method: SW846 5030
Analyst: DMF
Analysis Method: SW846 8260B
Lab Prep Batch: WG39123
Units: ug/l

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
108-88-3	Toluene	U	0.4	1.0	1	1	0.4
71-43-2	Benzene	U	0.5	1.0	1	1	0.5
100-41-4	Ethylbenzene	U	0.3	1.0	1	1	0.3
	m+p-Xylenes	U	1.0	1.0	2	2	1.0
95-47-6	o-Xylene	U	0.4	1.0	1	1	0.4
1330-20-7	Xylenes (total)	U	1	1.0	3	3	1
1868-53-7	Dibromofluoromethane		86%				
17060-07-0	1,2-Dichloroethane-D4		80%				
2037-26-5	Toluene-D8		86%				
460-00-4	P-Bromofluorobenzene		91%				

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KATAHDIN ANALYTICAL SERVICES
Report of Analytical Results

Client: Tetra Tech NUS, Inc
Project: CTO 056 NAS Pensacola
PO No:
Sample Date: 05/08/07
Received Date: 05/09/07
Extraction Date:
Analysis Date: 21-MAY-2007 16:45
Report Date: 05/30/2007
Matrix: WATER
% Solids: NA

Lab ID: SA2172-7
Client ID: PEN21GW6501
SDG: CTO056-5
Extracted by:
Extraction Method: SW846 5030
Analyst: SKT
Analysis Method: SW846 8260B
Lab Prep Batch: WG39146
Units: ug/l

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
108-88-3	Toluene	U	0.4	1.0	1	1	0.4
71-43-2	Benzene	U	0.5	1.0	1	1	0.5
100-41-4	Ethylbenzene	I	0.8	1.0	1	1	0.3
	m+p-Xylenes	I	1	1.0	2	2	1.0
95-47-6	o-Xylene	U	0.4	1.0	1	1	0.4
1330-20-7	Xylenes (total)	I	1	1.0	3	3	1
1868-53-7	Dibromofluoromethane		89%				
17060-07-0	1,2-Dichloroethane-D4		83%				
2037-26-5	Toluene-D8		88%				
460-00-4	P-Bromofluorobenzene		93%				

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KATAHDIN ANALYTICAL SERVICES
Report of Analytical Results

Client: Tetra Tech NUS, Inc
Project: CTO 056 NAS Pensacola
PO No:
Sample Date: 05/08/07
Received Date: 05/09/07
Extraction Date:
Analysis Date: 21-MAY-2007 17:47
Report Date: 05/30/2007
Matrix: WATER
% Solids: NA

Lab ID: SA2172-13
Client ID: PEN21GW6601
SDG: CTO056-5
Extracted by:
Extraction Method: SW846 5030
Analyst: SKT
Analysis Method: SW846 8260B
Lab Prep Batch: WG39146
Units: ug/l

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
108-88-3	Toluene	U	0.4	1.0	1	1	0.4
71-43-2	Benzene	U	0.5	1.0	1	1	0.5
100-41-4	Ethylbenzene	U	0.3	1.0	1	1	0.3
	m+p-Xylenes	U	1.0	1.0	2	2	1.0
95-47-6	o-Xylene	U	0.4	1.0	1	1	0.4
1330-20-7	Xylenes (total)	U	1	1.0	3	3	1
1868-53-7	Dibromofluoromethane		83%				
17060-07-0	1,2-Dichloroethane-D4		75%				
2037-26-5	Toluene-D8		87%				
460-00-4	P-Bromofluorobenzene		90%				

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KATAHDIN ANALYTICAL SERVICES
Report of Analytical Results

Client: Tetra Tech NUS, Inc
Project: CTO 056 NAS Pensacola
PO No:
Sample Date: 05/08/07
Received Date: 05/09/07
Extraction Date:
Analysis Date: 19-MAY-2007 15:38
Report Date: 05/30/2007
Matrix: WATER
% Solids: NA

Lab ID: SA2172-6
Client ID: TB050807
SDG: CTO056-5
Extracted by:
Extraction Method: SW846 5030
Analyst: -DMF
Analysis Method: SW846 8260B
Lab Prep Batch: WG39123
Units: ug/l

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
108-88-3	Toluene	U	0.4	1.0	1	1	0.4
71-43-2	Benzene	U	0.5	1.0	1	1	0.5
100-41-4	Ethylbenzene	U	0.3	1.0	1	1	0.3
	m+p-Xylenes	U	1.0	1.0	2	2	1.0
95-47-6	o-Xylene	U	0.4	1.0	1	1	0.4
1330-20-7	Xylenes (total)	U	1	1.0	3	3	1
1868-53-7	Dibromofluoromethane		86%				
17060-07-0	1,2-Dichloroethane-D4		81%				
2037-26-5	Toluene-D8		87%				
460-00-4	P-Bromofluorobenzene		87%				

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KATAHDIN ANALYTICAL SERVICES
Report of Analytical Results

Client: Tetra Tech NUS, Inc
Project: CTO 056 NAS Pensacola
PO No:
Sample Date: 04/25/07
Received Date: 05/10/07
Extraction Date:
Analysis Date: 22-MAY-2007 09:42
Report Date: 05/30/2007
Matrix: WATER
% Solids: NA

Lab ID: SA2211-5
Client ID: TRIP BLANK
SDG: CTO056-5
Extracted by:
Extraction Method: SW846 5030
Analyst: SKT
Analysis Method: SW846 8260B
Lab Prep Batch: WG39163
Units: ug/l

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
108-88-3	Toluene	U	0.4	1.0	1	1	0.4
71-43-2	Benzene	U	0.5	1.0	1	1	0.5
100-41-4	Ethylbenzene	U	0.3	1.0	1	1	0.3
	m+p-Xylenes	U	1.0	1.0	2	2	1.0
95-47-6	o-Xylene	U	0.4	1.0	1	1	0.4
1330-20-7	Xylenes (total)	U	1	1.0	3	3	1
1868-53-7	Dibromofluoromethane		89%				
17060-07-0	1,2-Dichloroethane-D4		86%				
2037-26-5	Toluene-D8		85%				
460-00-4	P-Bromofluorobenzene		87%				

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KATAHDIN ANALYTICAL SERVICES

Report of Analytical Results

Client: Tetra Tech NUS, Inc
 Project: CTO 056 NAS Pensacola
 PO No:
 Sample Date: 05/09/07
 Received Date: 05/10/07
 Extraction Date: 05/15/07
 Analysis Date: 17-MAY-2007 18:38
 Report Date: 05/18/2007
 Matrix: WATER
 % Solids: NA

Lab ID: SA2211-4
 Client ID: PEN21GW4304
 SDG: CTO056-5
 Extracted by: GN
 Extraction Method: SW846 3510
 Analyst: JCG
 Analysis Method: SW846 M8270C
 Lab Prep Batch: WG38925
 Units: ug/L

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
91-20-3	Naphthalene		0.3	1.0	0.2	0.2	0.1
91-57-6	2-Methylnaphthalene	U	0.07	1.0	0.2	0.2	0.07
90-12-0	1-Methylnaphthalene		4	1.0	0.2	0.2	0.2
208-96-8	Acenaphthylene	U	0.06	1.0	0.2	0.2	0.06
83-32-9	Acenaphthene	I	0.2	1.0	0.2	0.2	0.07
86-73-7	Fluorene	I	0.2	1.0	0.2	0.2	0.07
85-01-8	Phenanthrene	U	0.05	1.0	0.2	0.2	0.05
120-12-7	Anthracene	U	0.06	1.0	0.2	0.2	0.06
206-44-0	Fluoranthene	U	0.06	1.0	0.2	0.2	0.06
129-00-0	Pyrene	U	0.06	1.0	0.2	0.2	0.06
56-55-3	Benzo (a) anthracene	U	0.07	1.0	0.2	0.2	0.07
218-01-9	Chrysene	U	0.07	1.0	0.2	0.2	0.07
205-99-2	Benzo (b) fluoranthene	U	0.08	1.0	0.2	0.2	0.08
207-08-9	Benzo (k) fluoranthene	U	0.1	1.0	0.2	0.2	0.1
50-32-8	Benzo (a) pyrene	U	0.05	1.0	0.2	0.2	0.05
193-39-5	Indeno (1,2,3-cd) pyrene	U	0.1	1.0	0.2	0.2	0.1
191-24-2	Benzo (g,h,i) perylene	U	0.09	1.0	0.2	0.2	0.09
53-70-3	Dibenzo (a,h) anthracene	U	0.1	1.0	0.2	0.2	0.1
7297-45-2	2-Methylnaphthalene-d10		75%				
81103-79-9	Fluorene-d10		60%				
1718-52-1	Pyrene-d10		61%				

KATAHDIN ANALYTICAL SERVICES

Report of Analytical Results

Client: Tetra Tech NUS, Inc
 Project: CTO 056 NAS Pensacola
 PO No:
 Sample Date: 05/09/07
 Received Date: 05/10/07
 Extraction Date: 05/15/07
 Analysis Date: 17-MAY-2007 17:04
 Report Date: 05/18/2007
 Matrix: WATER
 % Solids: NA

Lab ID: SA2211-1
 Client ID: PEN21GW5302
 SDG: CTO056-5
 Extracted by: GN
 Extraction Method: SW846 3510
 Analyst: JCG
 Analysis Method: SW846 M8270C
 Lab Prep Batch: WG38925
 Units: ug/L

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
91-20-3	Naphthalene		1	1.0	0.2	0.2	0.1
91-57-6	2-Methylnaphthalene	J	2	1.0	0.2	0.2	0.07
90-12-0	1-Methylnaphthalene		2	1.0	0.2	0.2	0.2
208-96-8	Acenaphthylene	U	0.06	1.0	0.2	0.2	0.06
83-32-9	Acenaphthene	I	0.2	1.0	0.2	0.2	0.07
86-73-7	Fluorene	I	0.2	1.0	0.2	0.2	0.07
85-01-8	Phenanthrene	U	0.05	1.0	0.2	0.2	0.05
120-12-7	Anthracene	U	0.06	1.0	0.2	0.2	0.06
206-44-0	Fluoranthene	U	0.06	1.0	0.2	0.2	0.06
129-00-0	Pyrene	U	0.06	1.0	0.2	0.2	0.06
56-55-3	Benzo(a)anthracene	U	0.07	1.0	0.2	0.2	0.07
218-01-9	Chrysene	U	0.07	1.0	0.2	0.2	0.07
205-99-2	Benzo(b)fluoranthene	U	0.08	1.0	0.2	0.2	0.08
207-08-9	Benzo(k)fluoranthene	U	0.1	1.0	0.2	0.2	0.1
50-32-8	Benzo(a)pyrene	U	0.05	1.0	0.2	0.2	0.05
193-39-5	Indeno(1,2,3-cd)pyrene	U	0.1	1.0	0.2	0.2	0.1
191-24-2	Benzo(g,h,i)perylene	U	0.09	1.0	0.2	0.2	0.09
53-70-3	Dibenzo(a,h)anthracene	U	0.1	1.0	0.2	0.2	0.1
7297-45-2	2-Methylnaphthalene-d10		62%				
81103-79-9	Fluorene-d10		58%				
1718-52-1	Pyrene-d10		83%				

KATAHDIN ANALYTICAL SERVICES

Report of Analytical Results

Client: Tetra Tech NUS, Inc
 Project: CTO 056 NAS Pensacola
 PO No:
 Sample Date: 05/09/07
 Received Date: 05/10/07
 Extraction Date: 05/15/07
 Analysis Date: 17-MAY-2007 17:50
 Report Date: 05/18/2007
 Matrix: WATER
 % Solids: NA

Lab ID: SA2211-2
 Client ID: PEN21GW5302D
 SDG: CTO056-5
 Extracted by: GN
 Extraction Method: SW846 3510
 Analyst: JCG
 Analysis Method: SW846 M8270C
 Lab Prep Batch: WG38925
 Units: ug/L

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
91-20-3	Naphthalene		1	1.0	0.2	0.2	0.1
91-57-6	2-Methylnaphthalene	J	2	1.0	0.2	0.2	0.07
90-12-0	1-Methylnaphthalene		2	1.0	0.2	0.2	0.2
208-96-8	Acenaphthylene	U	0.06	1.0	0.2	0.2	0.06
83-32-9	Acenaphthene	I	0.2	1.0	0.2	0.2	0.07
86-73-7	Fluorene	I	0.1	1.0	0.2	0.2	0.07
85-01-8	Phenanthrene	U	0.05	1.0	0.2	0.2	0.05
120-12-7	Anthracene	U	0.06	1.0	0.2	0.2	0.06
206-44-0	Fluoranthene	U	0.06	1.0	0.2	0.2	0.06
129-00-0	Pyrene	U	0.06	1.0	0.2	0.2	0.06
56-55-3	Benzo (a) anthracene	U	0.07	1.0	0.2	0.2	0.07
218-01-9	Chrysene	U	0.07	1.0	0.2	0.2	0.07
205-99-2	Benzo (b) fluoranthene	U	0.08	1.0	0.2	0.2	0.08
207-08-9	Benzo (k) fluoranthene	U	0.1	1.0	0.2	0.2	0.1
50-32-8	Benzo (a) pyrene	U	0.05	1.0	0.2	0.2	0.05
193-39-5	Indeno (1,2,3-cd) pyrene	U	0.1	1.0	0.2	0.2	0.1
191-24-2	Benzo (g,h,i) perylene	U	0.09	1.0	0.2	0.2	0.09
53-70-3	Dibenzo (a,h) anthracene	U	0.1	1.0	0.2	0.2	0.1
7297-45-2	2-Methylnaphthalene-d10		68%				
81103-79-9	Fluorene-d10		59%				
1718-52-1	Pyrene-d10		82%				

KATAHDIN ANALYTICAL SERVICES
Report of Analytical Results

Client: Tetra Tech NUS, Inc
Project: CTO 056 NAS Pensacola
PO No:
Sample Date: 05/08/07
Received Date: 05/09/07
Extraction Date: 05/10/07
Analysis Date: 17-MAY-2007 19:08
Report Date: 06/04/2007
Matrix: WATER
% Solids: NA

Lab ID: SA2172-5
Client ID: PEN21GW6001
SDG: CTO056-5
Extracted by: GN
Extraction Method: SW846 3510
Analyst: JCG
Analysis Method: SW846 M8270C
Lab Prep Batch: WG38744
Units: ug/L

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
91-20-3	Naphthalene		4	1.0	0.2	0.2	0.1
91-57-6	2-Methylnaphthalene	L	18	1.0	0.2	0.2	0.07
90-12-0	1-Methylnaphthalene	L	26	1.0	0.2	0.2	0.2
208-96-8	Acenaphthylene		2	1.0	0.2	0.2	0.06
83-32-9	Acenaphthene		0.4	1.0	0.2	0.2	0.07
86-73-7	Fluorene		1	1.0	0.2	0.2	0.07
85-01-8	Phenanthrene	U	0.05	1.0	0.2	0.2	0.05
120-12-7	Anthracene	U	0.06	1.0	0.2	0.2	0.06
206-44-0	Fluoranthene	U	0.06	1.0	0.2	0.2	0.06
129-00-0	Pyrene	U	0.06	1.0	0.2	0.2	0.06
56-55-3	Benzo(a)anthracene	U	0.07	1.0	0.2	0.2	0.07
218-01-9	Chrysene	U	0.07	1.0	0.2	0.2	0.07
205-99-2	Benzo(b)fluoranthene	U	0.08	1.0	0.2	0.2	0.08
207-08-9	Benzo(k)fluoranthene	U	0.1	1.0	0.2	0.2	0.1
50-32-8	Benzo(a)pyrene	U	0.05	1.0	0.2	0.2	0.05
193-39-5	Indeno(1,2,3-cd)pyrene	U	0.1	1.0	0.2	0.2	0.1
191-24-2	Benzo(g,h,i)perylene	U	0.09	1.0	0.2	0.2	0.09
53-70-3	Dibenzo(a,h)anthracene	U	0.1	1.0	0.2	0.2	0.1
7297-45-2	2-Methylnaphthalene-d10		112%				
81103-79-9	Fluorene-d10		1141%				
1718-52-1	Pyrene-d10		99%				

KATAHDIN ANALYTICAL SERVICES

Report of Analytical Results

Client: Tetra Tech NUS, Inc
 Project: CTO 056 NAS Pensacola
 PO No:
 Sample Date: 05/08/07
 Received Date: 05/09/07
 Extraction Date: 05/10/07
 Analysis Date: 18-MAY-2007 14:28
 Report Date: 06/04/2007
 Matrix: WATER
 % Solids: NA

Lab ID: SA2172-5DL
 Client ID: PEN21GW6001
 SDG: CTO056-5
 Extracted by: GN
 Extraction Method: SW846 3510
 Analyst: JCG
 Analysis Method: SW846 M8270C
 Lab Prep Batch: WG38744
 Units: ug/L

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
91-20-3	Naphthalene		5	5.0	0.2	1	0.6
91-57-6	2-Methylnaphthalene		22	5.0	0.2	1	0.4
90-12-0	1-Methylnaphthalene		18	5.0	0.2	1	0.8
208-96-8	Acenaphthylene		2	5.0	0.2	1	0.3
83-32-9	Acenaphthene	I	0.5	5.0	0.2	1	0.4
86-73-7	Fluorene		2	5.0	0.2	1	0.4
85-01-8	Phenanthrene	U	0.2	5.0	0.2	1	0.2
120-12-7	Anthracene	U	0.3	5.0	0.2	1	0.3
206-44-0	Fluoranthene	U	0.3	5.0	0.2	1	0.3
129-00-0	Pyrene	U	0.3	5.0	0.2	1	0.3
56-55-3	Benzo(a)anthracene	U	0.4	5.0	0.2	1	0.4
218-01-9	Chrysene	U	0.4	5.0	0.2	1	0.4
205-99-2	Benzo(b)fluoranthene	U	0.4	5.0	0.2	1	0.4
207-08-9	Benzo(k)fluoranthene	U	0.6	5.0	0.2	1	0.6
50-32-8	Benzo(a)pyrene	U	0.2	5.0	0.2	1	0.2
193-39-5	Indeno(1,2,3-cd)pyrene	U	0.5	5.0	0.2	1	0.5
191-24-2	Benzo(g,h,i)perylene	U	0.4	5.0	0.2	1	0.4
53-70-3	Dibenzo(a,h)anthracene	U	0.6	5.0	0.2	1	0.6
7297-45-2	2-Methylnaphthalene-d10		100%				
81103-79-9	Fluorene-d10		1180%				
1718-52-1	Pyrene-d10		94%				

KATAHDIN ANALYTICAL SERVICES

Report of Analytical Results

Client: Tetra Tech NUS, Inc
 Project: CTO 056 NAS Pensacola
 PO No:
 Sample Date: 05/08/07
 Received Date: 05/09/07
 Extraction Date: 05/10/07
 Analysis Date: 17-MAY-2007 17:40
 Report Date: 06/04/2007
 Matrix: WATER
 % Solids: NA

Lab ID: SA2172-3
 Client ID: PEN21GW6101
 SDG: CTO056-5
 Extracted by: GN
 Extraction Method: SW846 3510
 Analyst: JCG
 Analysis Method: SW846 M8270C
 Lab Prep Batch: WG38744
 Units: ug/L

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
91-20-3	Naphthalene	L	59	1.0	0.2	0.2	0.1
91-57-6	2-Methylnaphthalene	L	67	1.0	0.2	0.2	0.07
90-12-0	1-Methylnaphthalene	L	180	1.0	0.2	0.2	0.1
208-96-8	Acenaphthylene	U	0.06	1.0	0.2	0.2	0.06
83-32-9	Acenaphthene		0.6	1.0	0.2	0.2	0.07
86-73-7	Fluorene		0.4	1.0	0.2	0.2	0.07
85-01-8	Phenanthrene	U	0.05	1.0	0.2	0.2	0.05
120-12-7	Anthracene	U	0.06	1.0	0.2	0.2	0.06
206-44-0	Fluoranthene	U	0.06	1.0	0.2	0.2	0.06
129-00-0	Pyrene	U	0.06	1.0	0.2	0.2	0.06
56-55-3	Benzo(a)anthracene	U	0.07	1.0	0.2	0.2	0.07
218-01-9	Chrysene	U	0.07	1.0	0.2	0.2	0.07
205-99-2	Benzo(b)fluoranthene	U	0.08	1.0	0.2	0.2	0.08
207-08-9	Benzo(k)fluoranthene	U	0.1	1.0	0.2	0.2	0.1
50-32-8	Benzo(a)pyrene	U	0.05	1.0	0.2	0.2	0.05
193-39-5	Indeno(1,2,3-cd)pyrene	U	0.10	1.0	0.2	0.2	0.10
191-24-2	Benzo(g,h,i)perylene	U	0.09	1.0	0.2	0.2	0.09
53-70-3	Dibenzo(a,h)anthracene	U	0.1	1.0	0.2	0.2	0.1
7297-45-2	2-Methylnaphthalene-d10		46%				
81103-79-9	Fluorene-d10		J 39%				
1718-52-1	Pyrene-d10		J 26%				

KATAHDIN ANALYTICAL SERVICES

Report of Analytical Results

Client: Tetra Tech NUS, Inc
 Project: CTO 056 NAS Pensacola
 PO No:
 Sample Date: 05/08/07
 Received Date: 05/09/07
 Extraction Date: 05/10/07
 Analysis Date: 18-MAY-2007 13:03
 Report Date: 06/04/2007
 Matrix: WATER
 % Solids: NA

Lab ID: SA2172-3DL
 Client ID: PEN21GW6101
 SDG: CTO056-5
 Extracted by: GN
 Extraction Method: SW846 3510
 Analyst: JCG
 Analysis Method: SW846 M8270C
 Lab Prep Batch: WG38744
 Units: ug/L

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
91-20-3	Naphthalene		110	25	0.2	5	3
91-57-6	2-Methylnaphthalene		110	25	0.2	5	2
90-12-0	1-Methylnaphthalene		81	25	0.2	5	4
208-96-8	Acenaphthylene	U	1	25	0.2	5	1
83-32-9	Acenaphthene	U	2	25	0.2	5	2
86-73-7	Fluorene	U	2	25	0.2	5	2
85-01-8	Phenanthrene	U	1	25	0.2	5	1
120-12-7	Anthracene	U	1	25	0.2	5	1
206-44-0	Fluoranthene	U	1	25	0.2	5	1
129-00-0	Pyrene	U	1	25	0.2	5	1
56-55-3	Benzo (a) anthracene	U	2	25	0.2	5	2
218-01-9	Chrysene	U	2	25	0.2	5	2
205-99-2	Benzo (b) fluoranthene	U	2	25	0.2	5	2
207-08-9	Benzo (k) fluoranthene	U	3	25	0.2	5	3
50-32-8	Benzo (a) pyrene	U	1	25	0.2	5	1
193-39-5	Indeno (1,2,3-cd) pyrene	U	2	25	0.2	5	2
191-24-2	Benzo (g,h,i) perylene	U	2	25	0.2	5	2
53-70-3	Dibenzo (a,h) anthracene	U	3	25	0.2	5	3
7297-45-2	2-Methylnaphthalene-d10		D				
81103-79-9	Fluorene-d10		D				
1718-52-1	Pyrene-d10		D				

KATAHDIN ANALYTICAL SERVICES

Report of Analytical Results

Client: Tetra Tech NUS, Inc
 Project: CTO 056 NAS Pensacola
 PO No:
 Sample Date: 05/08/07
 Received Date: 05/09/07
 Extraction Date: 05/23/07
 Analysis Date: 31-MAY-2007 20:17
 Report Date: 06/04/2007
 Matrix: WATER
 % Solids: NA

Lab ID: SA2172-3RE
 Client ID: PEN21GW6101
 SDG: CTO056-5
 Extracted by: GN
 Extraction Method: SW846 3520
 Analyst: JCG
 Analysis Method: SW846 M8270C
 Lab Prep Batch: WG39220
 Units: ug/L

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
91-20-3	Naphthalene	L	99	1.0	0.2	0.2	0.1
91-57-6	2-Methylnaphthalene	L	720	1.0	0.2	0.2	0.07
90-12-0	1-Methylnaphthalene	L	84	1.0	0.2	0.2	0.2
208-96-8	Acenaphthylene	U	0.06	1.0	0.2	0.2	0.06
83-32-9	Acenaphthene		1	1.0	0.2	0.2	0.07
86-73-7	Fluorene		0.6	1.0	0.2	0.2	0.07
85-01-8	Phenanthrene	I	0.2	1.0	0.2	0.2	0.05
120-12-7	Anthracene	U	0.06	1.0	0.2	0.2	0.06
206-44-0	Fluoranthene	U	0.06	1.0	0.2	0.2	0.06
129-00-0	Pyrene	U	0.06	1.0	0.2	0.2	0.06
56-55-3	Benzo(a)anthracene	U	0.07	1.0	0.2	0.2	0.07
218-01-9	Chrysene	U	0.07	1.0	0.2	0.2	0.07
205-99-2	Benzo(b)fluoranthene	U	0.08	1.0	0.2	0.2	0.08
207-08-9	Benzo(k)fluoranthene	U	0.1	1.0	0.2	0.2	0.1
50-32-8	Benzo(a)pyrene	U	0.05	1.0	0.2	0.2	0.05
193-39-5	Indeno(1,2,3-cd)pyrene	U	0.1	1.0	0.2	0.2	0.1
191-24-2	Benzo(g,h,i)perylene	U	0.09	1.0	0.2	0.2	0.09
53-70-3	Dibenzo(a,h)anthracene	U	0.1	1.0	0.2	0.2	0.1
7297-45-2	2-Methylnaphthalene-d10		90%				
81103-79-9	Fluorene-d10		68%				
1718-52-1	Pyrene-d10		83%				

KATAHDIN ANALYTICAL SERVICES

Report of Analytical Results

Client: Tetra Tech NUS, Inc
 Project: CTO 056 NAS Pensacola
 PO NO:
 Sample Date: 05/08/07
 Received Date: 05/09/07
 Extraction Date: 05/23/07
 Analysis Date: 31-MAY-2007 17:44
 Report Date: 06/04/2007
 Matrix: WATER
 % Solids: NA

Lab ID: SA2172-3REDL
 Client ID: PEN21GW6101
 SDG: CTO056-5
 Extracted by: GN
 Extraction Method: SW846 3520
 Analyst: JCG
 Analysis Method: SW846 M8270C
 Lab Prep Batch: WG39220
 Units: ug/L

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
91-20-3	Naphthalene		130	30	0.2	6	4
91-57-6	2-Methylnaphthalene		140	30	0.2	6	2
90-12-0	1-Methylnaphthalene		120	30	0.2	6	4
208-96-8	Acenaphthylene	U	2	30	0.2	6	2
83-32-9	Acenaphthene	U	2	30	0.2	6	2
86-73-7	Fluorene	U	2	30	0.2	6	2
85-01-8	Phenanthrene	U	2	30	0.2	6	2
120-12-7	Anthracene	U	2	30	0.2	6	2
206-44-0	Fluoranthene	U	2	30	0.2	6	2
129-00-0	Pyrene	U	2	30	0.2	6	2
56-55-3	Benzo(a)anthracene	U	2	30	0.2	6	2
218-01-9	Chrysene	U	2	30	0.2	6	2
205-99-2	Benzo(b)fluoranthene	U	2	30	0.2	6	2
207-08-9	Benzo(k)fluoranthene	U	3	30	0.2	6	3
50-32-8	Benzo(a)pyrene	U	2	30	0.2	6	2
193-39-5	Indeno(1,2,3-cd)pyrene	U	3	30	0.2	6	3
191-24-2	Benzo(g,h,i)perylene	U	3	30	0.2	6	3
53-70-3	Dibenzo(a,h)anthracene	U	4	30	0.2	6	4
7297-45-2	2-Methylnaphthalene-d10		D				
81103-79-9	Fluorene-d10		D				
1718-52-1	Pyrene-d10		D				

KATAHDIN ANALYTICAL SERVICES

Report of Analytical Results

Client: Tetra Tech NUS, Inc
 Project: CTO 056 NAS Pensacola
 PO No:
 Sample Date: 05/08/07
 Received Date: 05/09/07
 Extraction Date: 05/10/07
 Analysis Date: 17-MAY-2007 18:24
 Report Date: 06/04/2007
 Matrix: WATER
 % Solids: NA

Lab ID: SA2172-4
 Client ID: PEN21GW6201
 SDG: CTO056-5
 Extracted by: GN
 Extraction Method: SW846 3510
 Analyst: JCG
 Analysis Method: SW846 M8270C
 Lab Prep Batch: WG38744
 Units: ug/L

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
91-20-3	Naphthalene	L	50	1.0	0.2	0.2	0.1
91-57-6	2-Methylnaphthalene	L	50	1.0	0.2	0.2	0.07
90-12-0	1-Methylnaphthalene	L	120	1.0	0.2	0.2	0.1
208-96-8	Acenaphthylene	U	0.06	1.0	0.2	0.2	0.06
83-32-9	Acenaphthene		0.5	1.0	0.2	0.2	0.07
86-73-7	Fluorene		0.5	1.0	0.2	0.2	0.07
85-01-8	Phenanthrene	U	0.05	1.0	0.2	0.2	0.05
120-12-7	Anthracene	U	0.06	1.0	0.2	0.2	0.06
206-44-0	Fluoranthene	U	0.06	1.0	0.2	0.2	0.06
129-00-0	Pyrene	U	0.06	1.0	0.2	0.2	0.06
56-55-3	Benzo (a) anthracene	U	0.07	1.0	0.2	0.2	0.07
218-01-9	Chrysene	U	0.07	1.0	0.2	0.2	0.07
205-99-2	Benzo (b) fluoranthene	U	0.08	1.0	0.2	0.2	0.08
207-08-9	Benzo (k) fluoranthene	U	0.1	1.0	0.2	0.2	0.1
50-32-8	Benzo (a) pyrene	U	0.05	1.0	0.2	0.2	0.05
193-39-5	Indeno (1,2,3-cd) pyrene	U	0.10	1.0	0.2	0.2	0.10
191-24-2	Benzo (g,h,i) perylene	U	0.09	1.0	0.2	0.2	0.09
53-70-3	Dibenzo (a,h) anthracene	U	0.1	1.0	0.2	0.2	0.1
7297-45-2	2-Methylnaphthalene-d10		74%				
81103-79-9	Fluorene-d10		82%				
1718-52-1	Pyrene-d10		J 32%				

KATAHDIN ANALYTICAL SERVICES

Report of Analytical Results

Client: Tetra Tech NUS, Inc
 Project: CTO 056 NAS Pensacola
 PO No:
 Sample Date: 05/08/07
 Received Date: 05/09/07
 Extraction Date: 05/10/07
 Analysis Date: 18-MAY-2007 13:46
 Report Date: 06/04/2007
 Matrix: WATER
 % Solids: NA

Lab ID: SA2172-4DL
 Client ID: PEN21GW6201
 SDG: CTO056-5
 Extracted by: GN
 Extraction Method: SW846 3510
 Analyst: JCG
 Analysis Method: SW846 M8270C
 Lab Prep Batch: WG38744
 Units: ug/L

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
91-20-3	Naphthalene		93	20	0.2	4	2
91-57-6	2-Methylnaphthalene		81	20	0.2	4	1
90-12-0	1-Methylnaphthalene		65	20	0.2	4	3
208-96-8	Acenaphthylene	U	1	20	0.2	4	1
83-32-9	Acenaphthene	U	1	20	0.2	4	1
86-73-7	Fluorene	U	1	20	0.2	4	1
85-01-8	Phenanthrene	U	1.0	20	0.2	4	1.0
120-12-7	Anthracene	U	1	20	0.2	4	1
206-44-0	Fluoranthene	U	1	20	0.2	4	1
129-00-0	Pyrene	U	1	20	0.2	4	1
56-55-3	Benzo(a)anthracene	U	1	20	0.2	4	1
218-01-9	Chrysene	U	1	20	0.2	4	1
205-99-2	Benzo(b)fluoranthene	U	2	20	0.2	4	2
207-08-9	Benzo(k)fluoranthene	U	2	20	0.2	4	2
50-32-8	Benzo(a)pyrene	U	1.0	20	0.2	4	1.0
193-39-5	Indeno(1,2,3-cd)pyrene	U	2	20	0.2	4	2
191-24-2	Benzo(g,h,i)perylene	U	2	20	0.2	4	2
53-70-3	Dibenzo(a,h)anthracene	U	2	20	0.2	4	2
7297-45-2	2-Methylnaphthalene-d10		D				
81103-79-9	Fluorene-d10		D				
1718-52-1	Pyrene-d10		D				

KATAHDIN ANALYTICAL SERVICES
Report of Analytical Results

Client: Tetra Tech NUS, Inc
Project: CTO 056 NAS Pensacola
PO No:
Sample Date: 05/08/07
Received Date: 05/09/07
Extraction Date: 05/23/07
Analysis Date: 31-MAY-2007 21:10
Report Date: 06/04/2007
Matrix: WATER
% Solids: NA

Lab ID: SA2172-4RE
Client ID: PEN21GW6201
SDG: CTO056-5
Extracted by: GN
Extraction Method: SW846 3520
Analyst: JCG
Analysis Method: SW846 M8270C
Lab Prep Batch: WG39220
Units: ug/L

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
91-20-3	Naphthalene	L	91	1.0	0.2	0.2	0.1
91-57-6	2-Methylnaphthalene	L	340	1.0	0.2	0.2	0.07
90-12-0	1-Methylnaphthalene	L	64	1.0	0.2	0.2	0.2
208-96-8	Acenaphthylene	U	0.06	1.0	0.2	0.2	0.06
83-32-9	Acenaphthene		0.8	1.0	0.2	0.2	0.07
86-73-7	Fluorene		0.6	1.0	0.2	0.2	0.07
85-01-8	Phenanthrene	U	0.05	1.0	0.2	0.2	0.05
120-12-7	Anthracene	U	0.06	1.0	0.2	0.2	0.06
206-44-0	Fluoranthene	U	0.06	1.0	0.2	0.2	0.06
129-00-0	Pyrene	U	0.06	1.0	0.2	0.2	0.06
56-55-3	Benzo(a)anthracene	U	0.07	1.0	0.2	0.2	0.07
218-01-9	Chrysene	U	0.07	1.0	0.2	0.2	0.07
205-99-2	Benzo(b)fluoranthene	U	0.08	1.0	0.2	0.2	0.08
207-08-9	Benzo(k)fluoranthene	U	0.1	1.0	0.2	0.2	0.1
50-32-8	Benzo(a)pyrene	U	0.05	1.0	0.2	0.2	0.05
193-39-5	Indeno(1,2,3-cd)pyrene	U	0.1	1.0	0.2	0.2	0.1
191-24-2	Benzo(g,h,i)perylene	U	0.09	1.0	0.2	0.2	0.09
53-70-3	Dibenzo(a,h)anthracene	U	0.1	1.0	0.2	0.2	0.1
7297-45-2	2-Methylnaphthalene-d10		93%				
81103-79-9	Fluorene-d10		85%				
1718-52-1	Pyrene-d10		52%				

KATAHDIN ANALYTICAL SERVICES

Report of Analytical Results

Client: Tetra Tech NUS, Inc
 Project: CTO 056 NAS Pensacola
 PO No:
 Sample Date: 05/08/07
 Received Date: 05/09/07
 Extraction Date: 05/23/07
 Analysis Date: 31-MAY-2007 18:34
 Report Date: 06/04/2007
 Matrix: WATER
 % Solids: NA

Lab ID: SA2172-4REDL
 Client ID: PEN21GW6201
 SDG: CTO056-5
 Extracted by: GN
 Extraction Method: SW846 3520
 Analyst: JCG
 Analysis Method: SW846 M8270C
 Lab Prep Batch: WG39220
 Units: ug/L

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
91-20-3	Naphthalene		120	100	0.2	20	12
91-57-6	2-Methylnaphthalene		73	100	0.2	20	7
90-12-0	1-Methylnaphthalene		97	100	0.2	20	15
208-96-8	Acenaphthylene	U	6	100	0.2	20	6
83-32-9	Acenaphthene	U	7	100	0.2	20	7
86-73-7	Fluorene	U	7	100	0.2	20	7
85-01-8	Phenanthrene	U	5	100	0.2	20	5
120-12-7	Anthracene	U	6	100	0.2	20	6
206-44-0	Fluoranthene	U	6	100	0.2	20	6
129-00-0	Pyrene	U	6	100	0.2	20	6
56-55-3	Benzo(a)anthracene	U	7	100	0.2	20	7
218-01-9	Chrysene	U	7	100	0.2	20	7
205-99-2	Benzo(b)fluoranthene	U	8	100	0.2	20	8
207-08-9	Benzo(k)fluoranthene	U	11	100	0.2	20	11
50-32-8	Benzo(a)pyrene	U	5	100	0.2	20	5
193-39-5	Indeno(1,2,3-cd)pyrene	U	10	100	0.2	20	10
191-24-2	Benzo(g,h,i)perylene	U	9	100	0.2	20	9
53-70-3	Dibenzo(a,h)anthracene	U	12	100	0.2	20	12
7297-45-2	2-Methylnaphthalene-d10		D				
81103-79-9	Fluorene-d10		D				
1718-52-1	Pyrene-d10		D				

KATAHDIN ANALYTICAL SERVICES

Report of Analytical Results

Client: Tetra Tech NUS, Inc
 Project: CTO 056 NAS Pensacola
 PO No:
 Sample Date: 05/08/07
 Received Date: 05/09/07
 Extraction Date: 05/10/07
 Analysis Date: 17-MAY-2007 20:36
 Report Date: 06/05/2007
 Matrix: WATER
 % Solids: NA

Lab ID: SA2172-8
 Client ID: PEN21GW6301
 SDG: CTO056-5
 Extracted by: GN
 Extraction Method: SW846 3510
 Analyst: JCG
 Analysis Method: SW846 M8270C
 Lab Prep Batch: WG38744
 Units: ug/L

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
91-20-3	Naphthalene		0.9	1.0	0.2	0.2	0.1
91-57-6	2-Methylnaphthalene		5	1.0	0.2	0.2	0.07
90-12-0	1-Methylnaphthalene	L	7	1.0	0.2	0.2	0.1
208-96-8	Acenaphthylene	U	0.06	1.0	0.2	0.2	0.06
83-32-9	Acenaphthene		0.5	1.0	0.2	0.2	0.07
86-73-7	Fluorene		0.5	1.0	0.2	0.2	0.07
85-01-8	Phenanthrene	U	0.05	1.0	0.2	0.2	0.05
120-12-7	Anthracene	U	0.06	1.0	0.2	0.2	0.06
206-44-0	Fluoranthene	U	0.06	1.0	0.2	0.2	0.06
129-00-0	Pyrene	U	0.06	1.0	0.2	0.2	0.06
56-55-3	Benzo(a)anthracene	U	0.07	1.0	0.2	0.2	0.07
218-01-9	Chrysene	U	0.07	1.0	0.2	0.2	0.07
205-99-2	Benzo(b)fluoranthene	U	0.08	1.0	0.2	0.2	0.08
207-08-9	Benzo(k)fluoranthene	U	0.1	1.0	0.2	0.2	0.1
50-32-8	Benzo(a)pyrene	U	0.05	1.0	0.2	0.2	0.05
193-39-5	Indeno(1,2,3-cd)pyrene	U	0.10	1.0	0.2	0.2	0.10
191-24-2	Benzo(g,h,i)perylene	U	0.09	1.0	0.2	0.2	0.09
53-70-3	Dibenzo(a,h)anthracene	U	0.1	1.0	0.2	0.2	0.1
7297-45-2	2-Methylnaphthalene-d10		74%				
81103-79-9	Fluorene-d10		83%				
1718-52-1	Pyrene-d10		77%				

KATAHDIN ANALYTICAL SERVICES

Report of Analytical Results

Client: Tetra Tech NUS, Inc
 Project: CTO 056 NÁS Pensacola
 PO No:
 Sample Date: 05/08/07
 Received Date: 05/09/07
 Extraction Date: 05/10/07
 Analysis Date: 18-MAY-2007 15:54
 Report Date: 06/06/2007
 Matrix: WATER
 % Solids: NA

Lab ID: SA2172-8DL
 Client ID: PEN21GW6301
 SDG: CTO056-5
 Extracted by: GN
 Extraction Method: SW846 3510
 Analyst: JCG
 Analysis Method: SW846 M8270C
 Lab Prep Batch: WG38744
 Units: ug/L

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
91-20-3	Naphthalene		1.0	2.0	0.2	0.4	0.2
91-57-6	2-Methylnaphthalene		5	2.0	0.2	0.4	0.1
90-12-0	1-Methylnaphthalene		6	2.0	0.2	0.4	0.3
208-96-8	Acenaphthylene	U	0.1	2.0	0.2	0.4	0.1
83-32-9	Acenaphthene		0.7	2.0	0.2	0.4	0.1
86-73-7	Fluorene		0.5	2.0	0.2	0.4	0.1
85-01-8	Phenanthrene	U	0.10	2.0	0.2	0.4	0.10
120-12-7	Anthracene	U	0.1	2.0	0.2	0.4	0.1
206-44-0	Fluoranthene	U	0.1	2.0	0.2	0.4	0.1
129-00-0	Pyrene	U	0.1	2.0	0.2	0.4	0.1
56-55-3	Benzo(a)anthracene	U	0.1	2.0	0.2	0.4	0.1
218-01-9	Chrysene	U	0.1	2.0	0.2	0.4	0.1
205-99-2	Benzo(b)fluoranthene	U	0.2	2.0	0.2	0.4	0.2
207-08-9	Benzo(k)fluoranthene	U	0.2	2.0	0.2	0.4	0.2
50-32-8	Benzo(a)pyrene	U	0.10	2.0	0.2	0.4	0.10
193-39-5	Indeno(1,2,3-cd)pyrene	U	0.2	2.0	0.2	0.4	0.2
191-24-2	Benzo(g,h,i)perylene	U	0.2	2.0	0.2	0.4	0.2
53-70-3	Dibenzo(a,h)anthracene	U	0.2	2.0	0.2	0.4	0.2
7297-45-2	2-Methylnaphthalene-d10		80%				
81103-79-9	Fluorene-d10		86%				
1718-52-1	Pyrene-d10		85%				

KATAHDIN ANALYTICAL SERVICES

Report of Analytical Results

Client: Tetra Tech NUS, Inc
 Project: CTO 056 NAS Pensacola
 PO No:
 Sample Date: 05/08/07
 Received Date: 05/09/07
 Extraction Date: 05/10/07
 Analysis Date: 17-MAY-2007 16:15
 Report Date: 06/05/2007
 Matrix: WATER
 % Solids: NA

Lab ID: SA2172-1
 Client ID: PEN21GW6401
 SDG: CTO056-5
 Extracted by: GN
 Extraction Method: SW846 3510
 Analyst: JCG
 Analysis Method: SW846 M8270C
 Lab Prep Batch: WG38744
 Units: ug/L

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
91-20-3	Naphthalene		1	1.0	0.2	0.2	0.1
91-57-6	2-Methylnaphthalene	L	9	1.0	0.2	0.2	0.07
90-12-0	1-Methylnaphthalene	L	8	1.0	0.2	0.2	0.2
208-96-8	Acenaphthylene	U	0.06	1.0	0.2	0.2	0.06
83-32-9	Acenaphthene		0.3	1.0	0.2	0.2	0.07
86-73-7	Fluorene		0.4	1.0	0.2	0.2	0.07
85-01-8	Phenanthrene	U	0.05	1.0	0.2	0.2	0.05
120-12-7	Anthracene	U	0.06	1.0	0.2	0.2	0.06
206-44-0	Fluoranthene	U	0.06	1.0	0.2	0.2	0.06
129-00-0	Pyrene	U	0.06	1.0	0.2	0.2	0.06
56-55-3	Benzo(a)anthracene	U	0.07	1.0	0.2	0.2	0.07
218-01-9	Chrysene	U	0.07	1.0	0.2	0.2	0.07
205-99-2	Benzo(b)fluoranthene	U	0.08	1.0	0.2	0.2	0.08
207-08-9	Benzo(k)fluoranthene	U	0.1	1.0	0.2	0.2	0.1
50-32-8	Benzo(a)pyrene	U	0.05	1.0	0.2	0.2	0.05
193-39-5	Indeno(1,2,3-cd)pyrene	U	0.1	1.0	0.2	0.2	0.1
191-24-2	Benzo(g,h,i)perylene	U	0.09	1.0	0.2	0.2	0.09
53-70-3	Dibenzo(a,h)anthracene	U	0.1	1.0	0.2	0.2	0.1
7297-45-2	2-Methylnaphthalene-d10		72%				
81103-79-9	Fluorene-d10		85%				
1718-52-1	Pyrene-d10		62%				

KATAHDIN ANALYTICAL SERVICES

Report of Analytical Results

Client: Tetra Tech NUS, Inc
 Project: CTO 056 NAS Pensacola
 PO No:
 Sample Date: 05/08/07
 Received Date: 05/09/07
 Extraction Date: 05/10/07
 Analysis Date: 18-MAY-2007 11:38
 Report Date: 06/04/2007
 Matrix: WATER
 % Solids: NA

Lab ID: SA2172-1DL
 Client ID: PEN21GW6401
 SDG: CTO056-5
 Extracted by: GN
 Extraction Method: SW846 3510
 Analyst: JCG
 Analysis Method: SW846 M8270C
 Lab Prep Batch: WG38744
 Units: ug/L

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
91-20-3	Naphthalene		1	3.0	0.2	0.6	0.4
91-57-6	2-Methylnaphthalene		11	3.0	0.2	0.6	0.2
90-12-0	1-Methylnaphthalene		7	3.0	0.2	0.6	0.4
208-96-8	Acenaphthylene	U	0.2	3.0	0.2	0.6	0.2
83-32-9	Acenaphthene	I	0.4	3.0	0.2	0.6	0.2
86-73-7	Fluorene	I	0.5	3.0	0.2	0.6	0.2
85-01-8	Phenanthrene	U	0.2	3.0	0.2	0.6	0.2
120-12-7	Anthracene	U	0.2	3.0	0.2	0.6	0.2
206-44-0	Fluoranthene	U	0.2	3.0	0.2	0.6	0.2
129-00-0	Pyrene	U	0.2	3.0	0.2	0.6	0.2
56-55-3	Benzo(a)anthracene	U	0.2	3.0	0.2	0.6	0.2
218-01-9	Chrysene	U	0.2	3.0	0.2	0.6	0.2
205-99-2	Benzo(b)fluoranthene	U	0.2	3.0	0.2	0.6	0.2
207-08-9	Benzo(k)fluoranthene	U	0.3	3.0	0.2	0.6	0.3
50-32-8	Benzo(a)pyrene	U	0.2	3.0	0.2	0.6	0.2
193-39-5	Indeno(1,2,3-cd)pyrene	U	0.3	3.0	0.2	0.6	0.3
191-24-2	Benzo(g,h,i)perylene	U	0.3	3.0	0.2	0.6	0.3
53-70-3	Dibenzo(a,h)anthracene	U	0.4	3.0	0.2	0.6	0.4
7297-45-2	2-Methylnaphthalene-d10		74%				
81103-79-9	Fluorene-d10		74%				
1718-52-1	Pyrene-d10		53%				

KATAHDIN ANALYTICAL SERVICES

Report of Analytical Results

Client: Tetra Tech NUS, Inc
 Project: CTO 056 NAS Pensacola
 PO No:
 Sample Date: 05/08/07
 Received Date: 05/09/07
 Extraction Date: 05/10/07
 Analysis Date: 17-MAY-2007 16:58
 Report Date: 06/04/2007
 Matrix: WATER
 % Solids: NA

Lab ID: SA2172-2
 Client ID: PEN21GW6401D
 SDG: CTO056-5
 Extracted by: GN
 Extraction Method: SW846 3510
 Analyst: JCG
 Analysis Method: SW846 M8270C
 Lab Prep Batch: WG38744
 Units: ug/L

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
91-20-3	Naphthalene		0.9	1.0	0.2	0.2	0.1
91-57-6	2-Methylnaphthalene	L	8	1.0	0.2	0.2	0.07
90-12-0	1-Methylnaphthalene	L	7	1.0	0.2	0.2	0.1
208-96-8	Acenaphthylene	U	0.06	1.0	0.2	0.2	0.06
83-32-9	Acenaphthene		0.3	1.0	0.2	0.2	0.07
86-73-7	Fluorene		0.4	1.0	0.2	0.2	0.07
85-01-8	Phenanthrene	U	0.05	1.0	0.2	0.2	0.05
120-12-7	Anthracene	U	0.06	1.0	0.2	0.2	0.06
206-44-0	Fluoranthene	U	0.06	1.0	0.2	0.2	0.06
129-00-0	Pyrene	U	0.06	1.0	0.2	0.2	0.06
56-55-3	Benzo(a)anthracene	U	0.07	1.0	0.2	0.2	0.07
218-01-9	Chrysene	U	0.07	1.0	0.2	0.2	0.07
205-99-2	Benzo(b)fluoranthene	U	0.08	1.0	0.2	0.2	0.08
207-08-9	Benzo(k)fluoranthene	U	0.1	1.0	0.2	0.2	0.1
50-32-8	Benzo(a)pyrene	U	0.05	1.0	0.2	0.2	0.05
193-39-5	Indeno(1,2,3-cd)pyrene	U	0.10	1.0	0.2	0.2	0.10
191-24-2	Benzo(g,h,i)perylene	U	0.09	1.0	0.2	0.2	0.09
53-70-3	Dibenzo(a,h)anthracene	U	0.1	1.0	0.2	0.2	0.1
7297-45-2	2-Methylnaphthalene-d10		73%				
81103-79-9	Fluorene-d10		81%				
1718-52-1	Pyrene-d10		J 46%				

KATAHDIN ANALYTICAL SERVICES

Report of Analytical Results

Client: Tetra Tech NUS, Inc
 Project: CTO 056 NAS Pensacola
 PO No:
 Sample Date: 05/08/07
 Received Date: 05/09/07
 Extraction Date: 05/10/07
 Analysis Date: 18-MAY-2007 12:21
 Report Date: 06/04/2007
 Matrix: WATER
 % Solids: NA

Lab ID: SA2172-2DL
 Client ID: PEN21GW6401D
 SDG: CTO056-5
 Extracted by: GN
 Extraction Method: SW846 3510
 Analyst: JCG
 Analysis Method: SW846 M8270C
 Lab Prep Batch: WG38744
 Units: ug/L

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
91-20-3	Naphthalene		1	3.0	0.2	0.6	0.3
91-57-6	2-Methylnaphthalene		10	3.0	0.2	0.6	0.2
90-12-0	1-Methylnaphthalene		7	3.0	0.2	0.6	0.4
208-96-8	Acenaphthylene	U	0.2	3.0	0.2	0.6	0.2
83-32-9	Acenaphthene	I	0.4	3.0	0.2	0.6	0.2
86-73-7	Fluorene	I	0.4	3.0	0.2	0.6	0.2
85-01-8	Phenanthrene	U	0.1	3.0	0.2	0.6	0.1
120-12-7	Anthracene	U	0.2	3.0	0.2	0.6	0.2
206-44-0	Fluoranthene	U	0.2	3.0	0.2	0.6	0.2
129-00-0	Pyrene	U	0.2	3.0	0.2	0.6	0.2
56-55-3	Benzo(a)anthracene	U	0.2	3.0	0.2	0.6	0.2
218-01-9	Chrysene	U	0.2	3.0	0.2	0.6	0.2
205-99-2	Benzo(b)fluoranthene	U	0.2	3.0	0.2	0.6	0.2
207-08-9	Benzo(k)fluoranthene	U	0.3	3.0	0.2	0.6	0.3
50-32-8	Benzo(a)pyrene	U	0.1	3.0	0.2	0.6	0.1
193-39-5	Indeno(1,2,3-cd)pyrene	U	0.3	3.0	0.2	0.6	0.3
191-24-2	Benzo(g,h,i)perylene	U	0.3	3.0	0.2	0.6	0.3
53-70-3	Dibenzo(a,h)anthracene	U	0.3	3.0	0.2	0.6	0.3
7297-45-2	2-Methylnaphthalene-d10		71%				
81103-79-9	Fluorene-d10		68%				
1718-52-1	Pyrene-d10		J 47%				

KATAHDIN ANALYTICAL SERVICES

Report of Analytical Results

Client: Tetra Tech NUS, Inc
 Project: CTO 056 NAS Pensacola
 PO No:
 Sample Date: 05/08/07
 Received Date: 05/09/07
 Extraction Date: 05/23/07
 Analysis Date: 31-MAY-2007 19:25
 Report Date: 06/04/2007
 Matrix: WATER
 % Solids: NA

Lab ID: SA2172-2RE
 Client ID: PEN21GW6401D
 SDG: CTO056-5
 Extracted by: GN
 Extraction Method: SW846 3520
 Analyst: JCG
 Analysis Method: SW846 M8270C
 Lab Prep Batch: WG39220
 Units: ug/L

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
91-20-3	Naphthalene		0.9	1.0	0.2	0.2	0.1
91-57-6	2-Methylnaphthalene	L	10	1.0	0.2	0.2	0.07
90-12-0	1-Methylnaphthalene	L	7	1.0	0.2	0.2	0.2
208-96-8	Acenaphthylene	U	0.06	1.0	0.2	0.2	0.06
83-32-9	Acenaphthene		0.3	1.0	0.2	0.2	0.07
86-73-7	Fluorene		0.4	1.0	0.2	0.2	0.07
85-01-8	Phenanthrene	U	0.05	1.0	0.2	0.2	0.05
120-12-7	Anthracene	U	0.06	1.0	0.2	0.2	0.06
206-44-0	Fluoranthene	U	0.06	1.0	0.2	0.2	0.06
129-00-0	Pyrene	U	0.06	1.0	0.2	0.2	0.06
56-55-3	Benzo(a)anthracene	U	0.07	1.0	0.2	0.2	0.07
218-01-9	Chrysene	U	0.07	1.0	0.2	0.2	0.07
205-99-2	Benzo(b)fluoranthene	U	0.08	1.0	0.2	0.2	0.08
207-08-9	Benzo(k)fluoranthene	U	0.1	1.0	0.2	0.2	0.1
50-32-8	Benzo(a)pyrene	U	0.05	1.0	0.2	0.2	0.05
193-39-5	Indeno(1,2,3-cd)pyrene	U	0.1	1.0	0.2	0.2	0.1
191-24-2	Benzo(g,h,i)perylene	U	0.09	1.0	0.2	0.2	0.09
53-70-3	Dibenzo(a,h)anthracene	U	0.1	1.0	0.2	0.2	0.1
7297-45-2	2-Methylnaphthalene-d10		76%				
81103-79-9	Fluorene-d10		84%				
1718-52-1	Pyrene-d10		J 44%				

KATAHDIN ANALYTICAL SERVICES

Report of Analytical Results

Client: Tetra Tech NUS, Inc
 Project: CTO 056 NAS Pensacola
 PO No:
 Sample Date: 05/08/07
 Received Date: 05/09/07
 Extraction Date: 05/23/07
 Analysis Date: 31-MAY-2007 17:00
 Report Date: 06/04/2007
 Matrix: WATER
 % Solids: NA

Lab ID: SA2172-2REDL
 Client ID: PEN21GW6401D
 SDG: CTO056-5
 Extracted by: GN
 Extraction Method: SW846 3520
 Analyst: JCG
 Analysis Method: SW846 M8270C
 Lab Prep Batch: WG39220
 Units: ug/L

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
91-20-3	Naphthalene		1	3.0	0.2	0.6	0.4
91-57-6	2-Methylnaphthalene		8	3.0	0.2	0.6	0.2
90-12-0	1-Methylnaphthalene		7	3.0	0.2	0.6	0.4
208-96-8	Acenaphthylene	U	0.2	3.0	0.2	0.6	0.2
83-32-9	Acenaphthene	I	0.4	3.0	0.2	0.6	0.2
86-73-7	Fluorene	I	0.4	3.0	0.2	0.6	0.2
85-01-8	Phenanthrene	U	0.2	3.0	0.2	0.6	0.2
120-12-7	Anthracene	U	0.2	3.0	0.2	0.6	0.2
206-44-0	Fluoranthene	U	0.2	3.0	0.2	0.6	0.2
129-00-0	Pyrene	U	0.2	3.0	0.2	0.6	0.2
56-55-3	Benzo(a)anthracene	U	0.2	3.0	0.2	0.6	0.2
218-01-9	Chrysene	U	0.2	3.0	0.2	0.6	0.2
205-99-2	Benzo(b)fluoranthene	U	0.2	3.0	0.2	0.6	0.2
207-08-9	Benzo(k)fluoranthene	U	0.3	3.0	0.2	0.6	0.3
50-32-8	Benzo(a)pyrene	U	0.2	3.0	0.2	0.6	0.2
193-39-5	Indeno(1,2,3-cd)pyrene	U	0.3	3.0	0.2	0.6	0.3
191-24-2	Benzo(g,h,i)perylene	U	0.3	3.0	0.2	0.6	0.3
53-70-3	Dibenzo(a,h)anthracene	U	0.4	3.0	0.2	0.6	0.4
7297-45-2	2-Methylnaphthalene-d10		76%				
81103-79-9	Fluorene-d10		64%				
1718-52-1	Pyrene-d10		54%				

KATAHDIN ANALYTICAL SERVICES

Report of Analytical Results

Client: Tetra Tech NUS, Inc
 Project: CTO 056 NAS Pensacola
 PO No:
 Sample Date: 05/08/07
 Received Date: 05/09/07
 Extraction Date: 05/10/07
 Analysis Date: 17-MAY-2007 19:52
 Report Date: 06/04/2007
 Matrix: WATER
 % Solids: NA

Lab ID: SA2172-7
 Client ID: PEN21GW6501
 SDG: CTO056-5
 Extracted by: GN
 Extraction Method: SW846 3510
 Analyst: JCG
 Analysis Method: SW846 M8270C
 Lab Prep Batch: WG38744
 Units: ug/L

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
91-20-3	Naphthalene	L	6	1.0	0.2	0.2	0.1
91-57-6	2-Methylnaphthalene	L	13	1.0	0.2	0.2	0.07
90-12-0	1-Methylnaphthalene	L	18	1.0	0.2	0.2	0.2
208-96-8	Acenaphthylene		0.4	1.0	0.2	0.2	0.06
83-32-9	Acenaphthene		0.4	1.0	0.2	0.2	0.07
86-73-7	Fluorene		0.6	1.0	0.2	0.2	0.07
85-01-8	Phenanthrene	U	0.05	1.0	0.2	0.2	0.05
120-12-7	Anthracene	U	0.06	1.0	0.2	0.2	0.06
206-44-0	Fluoranthene	U	0.06	1.0	0.2	0.2	0.06
129-00-0	Pyrene	U	0.06	1.0	0.2	0.2	0.06
56-55-3	Benzo(a)anthracene	U	0.07	1.0	0.2	0.2	0.07
218-01-9	Chrysene	U	0.07	1.0	0.2	0.2	0.07
205-99-2	Benzo(b)fluoranthene	U	0.08	1.0	0.2	0.2	0.08
207-08-9	Benzo(k)fluoranthene	U	0.1	1.0	0.2	0.2	0.1
50-32-8	Benzo(a)pyrene	U	0.05	1.0	0.2	0.2	0.05
193-39-5	Indeno(1,2,3-cd)pyrene	U	0.1	1.0	0.2	0.2	0.1
191-24-2	Benzo(g,h,i)perylene	U	0.09	1.0	0.2	0.2	0.09
53-70-3	Dibenzo(a,h)anthracene	U	0.1	1.0	0.2	0.2	0.1
7297-45-2	2-Methylnaphthalene-d10		J165%				
81103-79-9	Fluorene-d10		J136%				
1718-52-1	Pyrene-d10		67%				

KATAHDIN ANALYTICAL SERVICES
Report of Analytical Results

Client: Tetra Tech NUS, Inc
Project: CTO 056 NAS Pensacola
PO No:
Sample Date: 05/08/07
Received Date: 05/09/07
Extraction Date: 05/10/07
Analysis Date: 18-MAY-2007 15:11
Report Date: 06/04/2007
Matrix: WATER
% Solids: NA

Lab ID: SA2172-7DL
Client ID: PEN21GW6501
SDG: CTO056-5
Extracted by: GN
Extraction Method: SW846 3510
Analyst: JCG
Analysis Method: SW846 M8270C
Lab Prep Batch: WG38744
Units: ug/L

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
91-20-3	Naphthalene		8	4.0	0.2	0.8	0.5
91-57-6	2-Methylnaphthalene		16	4.0	0.2	0.8	0.3
90-12-0	1-Methylnaphthalene		16	4.0	0.2	0.8	0.6
208-96-8	Acenaphthylene	U	0.2	4.0	0.2	0.8	0.2
83-32-9	Acenaphthene	I	0.6	4.0	0.2	0.8	0.3
86-73-7	Fluorene		0.8	4.0	0.2	0.8	0.3
85-01-8	Phenanthrene	U	0.2	4.0	0.2	0.8	0.2
120-12-7	Anthracene	U	0.2	4.0	0.2	0.8	0.2
206-44-0	Fluoranthene	U	0.2	4.0	0.2	0.8	0.2
129-00-0	Pyrene	U	0.2	4.0	0.2	0.8	0.2
56-55-3	Benzo(a)anthracene	U	0.3	4.0	0.2	0.8	0.3
218-01-9	Chrysene	U	0.3	4.0	0.2	0.8	0.3
205-99-2	Benzo(b)fluoranthene	U	0.3	4.0	0.2	0.8	0.3
207-08-9	Benzo(k)fluoranthene	U	0.4	4.0	0.2	0.8	0.4
50-32-8	Benzo(a)pyrene	U	0.2	4.0	0.2	0.8	0.2
193-39-5	Indeno(1,2,3-cd)pyrene	U	0.4	4.0	0.2	0.8	0.4
191-24-2	Benzo(g,h,i)perylene	U	0.4	4.0	0.2	0.8	0.4
53-70-3	Dibenzo(a,h)anthracene	U	0.5	4.0	0.2	0.8	0.5
7297-45-2	2-Methylnaphthalene-d10		87%				
81103-79-9	Fluorene-d10		78%				
1718-52-1	Pyrene-d10		70%				

KATAHDIN ANALYTICAL SERVICES

Report of Analytical Results

Client: Tetra Tech NUS, Inc
 Project: CTO 056 NAS Pensacola
 PO No:
 Sample Date: 05/08/07
 Received Date: 05/09/07
 Extraction Date: 05/10/07
 Analysis Date: 17-MAY-2007 21:20
 Report Date: 06/04/2007
 Matrix: WATER
 % Solids: NA

Lab ID: SA2172-13
 Client ID: PEN21GW6601
 SDG: CTO056-5
 Extracted by: GN
 Extraction Method: SW846 3510
 Analyst: JCG
 Analysis Method: SW846 M8270C
 Lab Prep Batch: WG38744
 Units: ug/L

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
91-20-3	Naphthalene	I	0.1	1.0	0.2	0.2	0.1
91-57-6	2-Methylnaphthalene		0.3	1.0	0.2	0.2	0.07
90-12-0	1-Methylnaphthalene	U	0.2	1.0	0.2	0.2	0.2
208-96-8	Acenaphthylene	U	0.06	1.0	0.2	0.2	0.06
83-32-9	Acenaphthene	I	0.2	1.0	0.2	0.2	0.07
86-73-7	Fluorene	I	0.1	1.0	0.2	0.2	0.07
85-01-8	Phenanthrene		0.2	1.0	0.2	0.2	0.05
120-12-7	Anthracene	U	0.06	1.0	0.2	0.2	0.06
206-44-0	Fluoranthene	U	0.06	1.0	0.2	0.2	0.06
129-00-0	Pyrene	U	0.06	1.0	0.2	0.2	0.06
56-55-3	Benzo(a)anthracene	U	0.07	1.0	0.2	0.2	0.07
218-01-9	Chrysene	U	0.07	1.0	0.2	0.2	0.07
205-99-2	Benzo(b)fluoranthene	U	0.08	1.0	0.2	0.2	0.08
207-08-9	Benzo(k)fluoranthene	U	0.1	1.0	0.2	0.2	0.1
50-32-8	Benzo(a)pyrene	U	0.05	1.0	0.2	0.2	0.05
193-39-5	Indeno(1,2,3-cd)pyrene	U	0.1	1.0	0.2	0.2	0.1
191-24-2	Benzo(g,h,i)perylene	U	0.09	1.0	0.2	0.2	0.09
53-70-3	Dibenzo(a,h)anthracene	U	0.1	1.0	0.2	0.2	0.1
7297-45-2	2-Methylnaphthalene-d10		78%				
81103-79-9	Fluorene-d10		72%				
1718-52-1	Pyrene-d10		100%				

KATAHDIN ANALYTICAL SERVICES
Report of Analytical Results

Client: Tetra Tech NUS, Inc
Project: CTO 056 NAS Pensacola
PO No:
Sample Date: 05/09/07
Received Date: 05/10/07
Extraction Date: 05/15/07
Analysis Date: 21-MAY-2007 22:34
Report Date: 05/24/2007
Matrix: WATER
% Solids: NA

Lab ID: SA2211-4RA2
Client ID: PEN21GW4304
SDG: CTO056-5
Extracted by: GN
Extraction Method: SW846 3510
Analyst: TR
Analysis Method: SW846 M8015
Lab Prep Batch: WG38927
Units: ug/L

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
	Petroleum Range Organics		3100	1.0	500	500	300
	n-Triacontane-D62		95%				
	O-Terphenyl		97%				

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KATAHDIN ANALYTICAL SERVICES
Report of Analytical Results

Client: Tetra Tech NUS, Inc
Project: CTO 056 NAS Pensacola
PO No:
Sample Date: 05/09/07
Received Date: 05/10/07
Extraction Date: 05/15/07
Analysis Date: 21-MAY-2007 21:19
Report Date: 05/24/2007
Matrix: WATER
% Solids: NA

Lab ID: SA2211-2RA2
Client ID: PEN21GW5302D
SDG: CTO056-5
Extracted by: GN
Extraction Method: SW846 3510
Analyst: TR
Analysis Method: SW846 M8015
Lab Prep Batch: WG38927
Units: ug/L

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
	Petroleum Range Organics		950	1.0	500	500	290
	n-Triacontane-D62		103%				
	O-Terphenyl		103%				

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KATAHDIN ANALYTICAL SERVICES
Report of Analytical Results

Client: Tetra Tech NUS, Inc
Project: CTO 056 NAS Pensacola
PO No:
Sample Date: 05/09/07
Received Date: 05/10/07
Extraction Date: 05/15/07
Analysis Date: 21-MAY-2007 20:03
Report Date: 05/24/2007
Matrix: WATER
% Solids: NA

Lab ID: SA2211-1RA2
Client ID: PEN21GW5302
SDG: CTO056-5
Extracted by: GN
Extraction Method: SW846 3510
Analyst: TR
Analysis Method: SW846 M8015
Lab Prep Batch: WG38927
Units: ug/L

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
	Petroleum Range Organics		1000	1.0	500	500	290
	n-Triacontane-D62		98%				
	O-Terphenyl		99%				

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KATAHDIN ANALYTICAL SERVICES
Report of Analytical Results

Client: Tetra Tech NUS, Inc
Project: CTO 056 NAS Pensacola
PO No:
Sample Date: 05/08/07
Received Date: 05/09/07
Extraction Date: 05/10/07
Analysis Date: 17-MAY-2007 16:37
Report Date: 05/24/2007
Matrix: WATER
% Solids: NA

Lab ID: SA2172-5DL2
Client ID: PEN21GW6001
SDG: CTO056-5
Extracted by: GN
Extraction Method: SW846 3510
Analyst: TR
Analysis Method: SW846 M8015
Lab Prep Batch: WG38763
Units: ug/L

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
	Petroleum Range Organics		8800	5.0	500	2500	1500
	n-Triacontane-D62		97%				
	O-Terphenyl		101%				

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KATAHDIN ANALYTICAL SERVICES
Report of Analytical Results

Client: Tetra Tech NUS, Inc
Project: CTO 056 NAS Pensacola
PO No:
Sample Date: 05/08/07
Received Date: 05/09/07
Extraction Date: 05/10/07
Analysis Date: 14-MAY-2007 18:28
Report Date: 05/24/2007
Matrix: WATER
% Solids: NA

Lab ID: SA2172-3
Client ID: PEN21GW6101
SDG: CTO056-5
Extracted by: GN
Extraction Method: SW846 3510
Analyst: TR
Analysis Method: SW846 M8015
Lab Prep Batch: WG38763
Units: ug/L

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
	Petroleum Range Organics		5300	1.0	500	500	290
	n-Triacontane-D62		95%				
	O-Terphenyl		100%				

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KATAHDIN ANALYTICAL SERVICES
Report of Analytical Results

Client: Tetra Tech NUS, Inc
Project: CTO 056 NAS Pensacola
PO No:
Sample Date: 05/08/07
Received Date: 05/09/07
Extraction Date: 05/10/07
Analysis Date: 18-MAY-2007 17:57
Report Date: 05/24/2007
Matrix: WATER
% Solids: NA

Lab ID: SA2172-4DL2
Client ID: PEN21GW6201
SDG: CTO056-5
Extracted by: GN
Extraction Method: SW846 3510
Analyst: TR
Analysis Method: SW846 M8015
Lab Prep Batch: WG38763
Units: ug/L

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
	Petroleum Range Organics		13000	5.0	500	2400	1400
	n-Triacontane-D62		90%				
	o-Terphenyl		99%				

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KATAHDIN ANALYTICAL SERVICES
Report of Analytical Results

Client: Tetra Tech NUS, Inc
Project: CTO 056 NAS Pensacola
PO No:
Sample Date: 05/08/07
Received Date: 05/09/07
Extraction Date: 05/10/07
Analysis Date: 17-MAY-2007 17:51
Report Date: 05/24/2007
Matrix: WATER
% Solids: NA

Lab ID: SA2172-8DL
Client ID: PEN21GW6301
SDG: CTO056-5
Extracted by: GN
Extraction Method: SW846 3510
Analyst: TR
Analysis Method: SW846 M8015
Lab Prep Batch: WG38763
Units: ug/L

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
	Petroleum Range Organics		11000	5.0	500	2400	1400
	n-Triacontane-D62		96%				
	O-Terphenyl		101%				

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KATAHDIN ANALYTICAL SERVICES
Report of Analytical Results

Client: Tetra Tech NUS, Inc
Project: CTO 056 NAS Pensacola
PO No:
Sample Date: 05/08/07
Received Date: 05/09/07
Extraction Date: 05/10/07
Analysis Date: 15-MAY-2007 22:58
Report Date: 05/24/2007
Matrix: WATER
% Solids: NA

Lab ID: SA2172-2DL
Client ID: PEN21GW6401D
SDG: CTO056-5
Extracted by: GN
Extraction Method: SW846 3510
Analyst: TR
Analysis Method: SW846 M8015
Lab Prep Batch: WG38763
Units: ug/L

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
	Petroleum Range Organics		12000	10	500	5000	2900
	n-Triacontane-D62		D				
	O-Terphenyl		D				

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KATAHDIN ANALYTICAL SERVICES
Report of Analytical Results

Client: Tetra Tech NUS, Inc
Project: CTO 056 NAS Pensacola
PO No:
Sample Date: 05/08/07
Received Date: 05/09/07
Extraction Date: 05/10/07
Analysis Date: 15-MAY-2007 21:43
Report Date: 05/24/2007
Matrix: WATER
% Solids: NA

Lab ID: SA2172-1DL
Client ID: PEN21GW6401
SDG: CTO056-5
Extracted by: GN
Extraction Method: SW846 3510
Analyst: TR
Analysis Method: SW846 M8015
Lab Prep Batch: WG38763
Units: ug/L

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
	Petroleum Range Organics		10000	10	500	5000	2900
	n-Triacontane-D62		D				
	O-Terphenyl		D				

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KATAHDIN ANALYTICAL SERVICES
Report of Analytical Results

Client: Tetra Tech NUS, Inc
Project: CTO 056 NAS Pensacola
PO No:
Sample Date: 05/08/07
Received Date: 05/09/07
Extraction Date: 05/10/07
Analysis Date: 16-MAY-2007 01:29
Report Date: 05/24/2007
Matrix: WATER
% Solids: NA

Lab ID: SA2172-7DL
Client ID: PEN21GW6501
SDG: CTO056-5
Extracted by: GN
Extraction Method: SW846 3510
Analyst: TR
Analysis Method: SW846 M8015
Lab Prep Batch: WG38763
Units: ug/L

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
	Petroleum Range Organics		13000	10	500	4900	2900
	n-Triacontane-D62		D				
	O-Terphenyl		D				

Page 01 of 01 CAE1061.d

KATAHDIN ANALYTICAL SERVICES
Report of Analytical Results

Client: Tetra Tech NUS, Inc
Project: CTO 056 NAS Pensacola
PO No:
Sample Date: 05/08/07
Received Date: 05/09/07
Extraction Date: 05/10/07
Analysis Date: 14-MAY-2007 17:12
Report Date: 05/24/2007
Matrix: WATER
% Solids: NA

Lab ID: SA2172-13
Client ID: PEN21GW6601
SDG: CTO056-5
Extracted by: GN
Extraction Method: SW846 3510
Analyst: TR
Analysis Method: SW846 M8015
Lab Prep Batch: WG38763
Units: ug/L

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
	Petroleum Range Organics	I	400	1.0	500	530	310
	n-Triacontane-D62		100%				
	O-Terphenyl		102%				

Page 01 of 01 CAE1036.d



Tetra Tech NUS

INTERNAL CORRESPONDENCE

TO: G. WALKER **DATE: JUNE 20, 2007**
FROM: MATTHEW D. KRAUS **COPIES: DV FILE**
SUBJECT: INORGANIC DATA VALIDATION – LEAD
NAS PENSACOLA – CTO 056
SDGs – CTO056-1 & CTO056-2

SAMPLES: 8/Aqueous/CTO056-1

DP03WL11-15	DP04WL11-15	DP06WL10-12
DP07WL10-12	DP08WL10-12	DP09WL10-12
DP10WL10-12	DP11WL10-12	

6/Aqueous/CTO056-2

DP27WL10-14	DP28WL9-13	DP29WL10-14
DP30WL10-14	DP31WL10-14	DP32WL10-14

Overview

The sample sets SDG CTO056-1 and SDG CTO056-2 for NAS Pensacola, CTO 056, consist of eight and six aqueous environmental samples, respectively.

All samples were analyzed for total lead by Katahdin Analytical Services. Tetra Tech NUS collected samples for SDG CTO056-1 from April 30 – May 2, 2007 and samples for SDG CTO056-2 on May 4, 2007. Lead analyses were conducted according to SW-846 method 6010B and Inductively Coupled Plasma – Atomic Emission Spectrometry (ICP-AES) methodology.

Data were evaluated based on the following parameters:

- Data Completeness
 - * • Holding Times
 - * • Calibration Recoveries
 - * • Laboratory Method/Preparation Blank Analyses
 - * • Detection Limits
- * - All quality control criteria were met for this parameter.

Data Completeness

The laboratory did not report instrumental raw data for SDG CTO056-1.

TO: WALKER, G. – PAGE 2
DATE: JUNE 20, 2007

Executive Summary


Laboratory Performance: The laboratory did not report instrumental raw data for SDG CTO056-1.

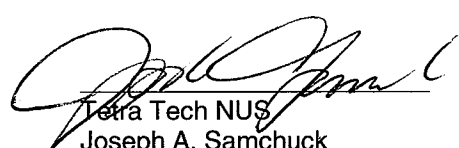
Other Factors Affecting Data Quality: None.

The data for these analyses were reviewed with reference to the "National Functional Guidelines for Inorganic Data Review", October 2004, and the Department of Defense (DoD) document entitled "Quality Systems Manual (QSM) for Environmental Laboratories" (January 2006).

The text of this report has been formulated to address only those problem areas affecting data quality.

"I attest that the data referenced herein were validated according to the agreed upon validation criteria as specified in the DoD QSM and the Quality Assurance Project Plan (QAPP)."


Tetra Tech NUS
Matthew D. Kraus
Environmental Chemist


Tetra Tech NUS
Joseph A. Samchuck
Quality Assurance Officer

Attachments:

1. Appendix A - Qualified Analytical Results
2. Appendix B - Results as reported by the Laboratory
3. Appendix C – Support Documentation

APPENDIX A
QUALIFIED ANALYTICAL RESULTS

Data Validation Qualifier Codes:

- A = Lab Blank Contamination
- B = Field Blank Contamination
- C = Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
- C01 = GC/MS Tuning Noncompliance
- D = MS/MSD Recovery Noncompliance
- E = LCS/LCSD Recovery Noncompliance
- F = Lab Duplicate Imprecision
- G = Field Duplicate Imprecision
- H = Holding Time Exceedance
- I = ICP Serial Dilution Noncompliance
- J = GFAA PDS - GFAA MSA's $r < 0.995$
- K = ICP Interference - includes ICS % R Noncompliance
- L = Instrument Calibration Range Exceedance
- M = Sample Preservation Noncompliance
- N = Internal Standard Noncompliance
- N01 = Internal Standard Recovery Noncompliance Dioxins
- N02 = Recovery Standard Noncompliance Dioxins
- N03 = Clean-up Standard Noncompliance Dioxins
- O = Poor Instrument Performance (e.g. base-line drifting)
- P = Uncertainty near detection limit ($< 2 \times \text{IDL}$ for inorganics and $< \text{CRQL}$ for organics)
- Q = Other problems (can encompass a number of issues; e.g. chromatography, interferences, etc.)
- R = Surrogates Recovery Noncompliance
- S = Pesticide/PCB Resolution
- T = % Breakdown Noncompliance for DDT and Endrin
- U = % Difference between columns/detectors $> 25\%$ for positive results determined via GC/HPLC
- V = Non-linear calibrations; correlation coefficient $r < 0.995$
- W = EMPC result
- X = Signal to noise response drop
- Y = Percent solids $< 30\%$
- Z = Uncertainty at 2 sigma deviation is greater than sample activity

PROJ_NO: 00583

SDG: CTO056-1 MEDIA: WATER DATA FRACTION: M

nsample	DP03WL11-15	nsample	DP04WL11-15	nsample	DP06WL10-12		
samp_date	4/30/2007	samp_date	5/1/2007	samp_date	5/1/2007		
lab_id	SA2051-001	lab_id	SA2051-002	lab_id	SA2051-004		
qc_type	NM	qc_type	NM	qc_type	NM		
units	UG/L	units	UG/L	units	UG/L		
Pct_Solids	0.0	Pct_Solids	0.0	Pct_Solids	0.0		
DUP_OF:		DUP_OF:		DUP_OF:			
Parameter	Result	Val	Qual	Parameter	Result	Val	Qual
		Qual	Code			Qual	Code
LEAD	147			LEAD	334		

PROJ_NO: 00583

SDG: CTO056-1 MEDIA: WATER DATA FRACTION: M

DP07WL10-12	DP08WL10-12	DP09WL10-12
nsample	nsample	nsample
samp_date	samp_date	samp_date
lab_id	lab_id	lab_id
qc_type	qc_type	qc_type
units	units	units
Pct_Solids	Pct_Solids	Pct_Solids
DUP_OF:	DUP_OF:	DUP_OF:
Val	Val	Val
Result	Result	Result
Qual	Qual	Qual
Code	Code	Code
LEAD	LEAD	LEAD
3	6.5	19.6

PROJ_NO: 00583

SDG: CTO056-1 MEDIA: WATER DATA FRACTION: M

nsample	DP10WL10-12	nsample	DP11WL10-12
samp_date	5/1/2007	samp_date	5/2/2007
lab_id	SA2051-003	lab_id	SA2051-008
qc_type	NM	qc_type	NM
units	UG/L	units	UG/L
Pct_Solids	0.0	Pct_Solids	0.0
DUP_OF:		DUP_OF:	

Parameter	Result	Val Qual	Qual Code
LEAD	423		

Parameter	Result	Val Qual	Qual Code
LEAD	26.6		

PROJ_NO: 00583

SDG: CTO056-2 MEDIA: WATER DATA FRACTION: M

nsample	DP27WL10-14	nsample	DP28WL9-13	nsample	DP29WL10-14
samp_date	5/4/2007	samp_date	5/4/2007	samp_date	5/4/2007
lab_id	SA2118-001	lab_id	SA2118-002	lab_id	SA2118-003
qc_type	NM	qc_type	NM	qc_type	NM
units	UG/L	units	UG/L	units	UG/L
Pct_Solids	0.0	Pct_Solids	0.0	Pct_Solids	0.0
DUP_OF:		DUP_OF:		DUP_OF:	
Parameter	Result	Parameter	Result	Parameter	Result
Val	Qual	Val	Qual	Val	Qual
Qual	Code	Qual	Code	Qual	Code
LEAD	1.2	LEAD	6.8	LEAD	1.6

00583

SDG: CTO056-2 MEDIA: WATER DATA FRACTION: M

DP30WL10-14	DP31WL10-14	DP32WL10-14
nsample	nsample	nsample
samp_date	samp_date	samp_date
lab_id	lab_id	lab_id
qc_type	qc_type	qc_type
units	units	units
Pct_Solids	Pct_Solids	Pct_Solids
DUP_OF:	DUP_OF:	DUP_OF:
Parameter	Parameter	Parameter
Result	Result	Result
Val	Val	Val
Qual	Qual	Qual
Code	Code	Code
LEAD	LEAD	LEAD
9.4	63.5	73.5

APPENDIX B
RESULTS AS REPORTED BY THE LABORATORY

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services

Client Field ID: DP03WL11-15

Matrix: WATER

SDG Name: CTO056-1

Percent Solids: 0.00

Lab Sample ID: SA2051-001

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	Adjusted PQL	Adjusted IDL
7439-92-1	LEAD, TOTAL	147			P	1	5.0	0.91

Bottle ID: A

Comments:

FORM I - IN

Sample Data Summary A0000002

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services

Client Field ID: DP04WL11-15

Matrix: WATER

SDG Name: CTO056-1

Percent Solids: 0.00

Lab Sample ID: SA2051-002

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	Adjusted PQL	Adjusted IDL
7439-92-1	LEAD, TOTAL	57.4			P	1	5.0	0.91

Bottle ID: A

Comments:

FORM I - IN

Sample Data Summary A0000003

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services

Client Field ID: DP06WL10-12

Matrix: WATER

SDG Name: CTO056-1

Percent Solids: 0.00

Lab Sample ID: SA2051-004

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	Adjusted PQL	Adjusted IDL
7439-92-1	LEAD, TOTAL	334			P	1	5.0	0.91

Bottle ID: A

Comments:

FORM I - IN

Sample Data Summary A0000005

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services

Client Field ID: DP07WL10-12

Matrix: WATER

SDG Name: CTO056-1

Percent Solids: 0.00

Lab Sample ID: SA2051-005

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	Adjusted PQL	Adjusted IDL
7439-92-1	LEAD, TOTAL	3.0	I		P	1	5.0	0.91

Bottle ID: A

Comments:

FORM I - IN

Sample Data Summary A0000006

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services

Client Field ID: DP08WL10-12

Matrix: WATER

SDG Name: CTO056-1

Percent Solids: 0.00

Lab Sample ID: SA2051-006

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	Adjusted PQL	Adjusted IDL
7439-92-1	LEAD, TOTAL	6.5			P	1	5.0	0.91

Bottle ID: A

Comments:

FORM I - IN

Sample Data Summary A0000007

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services

Client Field ID: DP09WL10-12

Matrix: WATER

SDG Name: CTO056-1

Percent Solids: 0.00

Lab Sample ID: SA2051-007

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	Adjusted PQL	Adjusted IDL
7439-92-1	LEAD, TOTAL	19.6			P	1	5.0	0.91

Bottle ID: A

Comments:

FORM I - IN

Sample Data Summary A0000008

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services

Client Field ID: DP10WL10-12

Matrix: WATER

SDG Name: CTO056-1

Percent Solids: 0.00

Lab Sample ID: SA2051-003

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	Adjusted PQL	Adjusted IDL
7439-92-1	LEAD, TOTAL	423			P	1	5.0	0.91

Bottle ID: A

Comments:

FORM I - IN

Sample Data Summary A0000004

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services

Client Field ID: DP11WL10-12

Matrix: WATER

SDG Name: CTO056-1

Percent Solids: 0.00

Lab Sample ID: SA2051-008

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	Adjusted PQL	Adjusted IDL
7439-92-1	LEAD, TOTAL	26.6			P	1	5.0	0.91

Bottle ID: A

Comments:

FORM I - IN

Sample Data Summary A0000009

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services

Client Field ID: DP27WL10-14

Matrix: WATER

SDG Name: CTO056-2

Percent Solids: 0.00

Lab Sample ID: SA2118-001

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	Adjusted PQL	Adjusted IDL
7439-92-1	LEAD, TOTAL	1.2	I		P	1	5.0	0.91

Color Before: N/A

Clarity Before: N/A

Color After: N/A

Clarity After: N/A

Bottle ID: A

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services

Client Field ID: DP28WL9-13

Matrix: WATER

SDG Name: CTO056-2

Percent Solids: 0.00

Lab Sample ID: SA2118-002

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	Adjusted PQL	Adjusted IDL
7439-92-1	LEAD, TOTAL	6.8			P	1	5.0	0.91

Color Before: N/A

Clarity Before: N/A

Color After: N/A

Clarity After: N/A

Bottle ID: A

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services

Client Field ID: DP29WL10-14

Matrix: WATER

SDG Name: CTO056-2

Percent Solids: 0.00

Lab Sample ID: SA2118-003

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	Adjusted PQL	Adjusted IDL
7439-92-1	LEAD, TOTAL	1.6	I		P	1	5.0	0.91

Color Before: N/A

Clarity Before: N/A

Color After: N/A

Clarity After: N/A

Bottle ID: A

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services

Client Field ID: DP30WL10-14

Matrix: WATER

SDG Name: CTO056-2

Percent Solids: 0.00

Lab Sample ID: SA2118-004

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	Adjusted PQL	Adjusted IDL
7439-92-1	LEAD, TOTAL	9.4			P	1	5.0	0.91

Color Before: N/A

Clarity Before: N/A

Color After: N/A

Clarity After: N/A

Bottle ID: A

Comments:

FORM I - IN

Sample Data Summary A0000005

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services

Client Field ID: DP31WL10-14

Matrix: WATER

SDG Name: CTO056-2

Percent Solids: 0.00

Lab Sample ID: SA2118-005

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	Adjusted PQL	Adjusted IDL
7439-92-1	LEAD, TOTAL	63.5			P	1	5.0	0.91

Color Before: N/A

Clarity Before: N/A

Color After: N/A

Clarity After: N/A

Bottle ID: A

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services

Client Field ID: DP32WL10-14

Matrix: WATER

SDG Name: CTO056-2

Percent Solids: 0.00

Lab Sample ID: SA2118-006

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	Adjusted PQL	Adjusted IDL
7439-92-1	LEAD, TOTAL	73.5			P	1	5.0	0.91

Color Before: N/A

Clarity Before: N/A

Color After: N/A

Clarity After: N/A

Bottle ID: A

Comments:



Tetra Tech NUS

INTERNAL CORRESPONDENCE

TO: G. WALKER **DATE:** JULY 13, 2007
FROM: MATTHEW D. KRAUS **COPIES:** DV FILE
SUBJECT: INORGANIC DATA VALIDATION – LEAD
NAS PENSACOLA – CTO 056
SDG – CTO056-6
SAMPLES: 7/Aqueous/
PEN21GW31R01 PEN21GW46R01 PEN21GW5401
PEN21GW7301 PEN21GW7401 PEN21GW7501
PEN21GW7601

Overview

The sample set for NAS Pensacola, CTO 056, SDG CTO056-6, consists of seven aqueous environmental samples which were collected by Tetra Tech NUS on May 10, 2007 and analyzed for total lead by Katahdin Analytical Services. Lead analyses were conducted using SW-846 method 6010B and Inductively Coupled Plasma – Atomic Emission Spectrometry (ICP-AES) methodology.

Data were evaluated based on the following parameters:

- * • Data Completeness
 - Holding Times
 - * • Calibration Recoveries
 - Laboratory Method/Preparation Blank Analyses
 - * • Detection Limits
- * - All quality control criteria were met for this parameter.

Holding Times

Samples PEN21GW31R01 and PEN21GW5401 were not properly preserved (nitric acid was not added to the samples). Sample PEN21GW31R01 was qualified as estimated, "J", due to sample preservation noncompliance and sample PEN21GW5401 was qualified due to laboratory blank contamination.

Laboratory Method/Preparation Blank Analyses

The following contaminant was detected in the laboratory method/preparation blanks at the following maximum concentration:

Analyte	Maximum Concentration (µg/L)	Action Level (µg/L)
Lead ⁽¹⁾	0.932	4.66

⁽¹⁾ Maximum concentration present in a laboratory method blank affecting all samples.

TO: WALKER, G. – PAGE 2
DATE: July 13, 2007

An action level of five times the maximum contaminant level has been used to evaluate sample data for blank contamination. Sample aliquot and dilution factors, if applicable, were taken into consideration when evaluating for blank contamination. Positive results less than the blank action level reported for the above analyte were qualified "U" as a result of laboratory blank contamination. Lead was qualified due to laboratory blank contamination.

Notes

The laboratory received sample PEN21GW4601 (as identified on the chain-of-custody) labeled as sample PEN21GW46R01. The Tetra Tech NUS, Inc. sampler (Jason Bourgeois) was contacted and confirmed that the sample ID on the bottle label was to be used. The laboratory used the sample ID on the bottle label (PEN21GW46R01) and that ID is also presented in the database.

Executive Summary

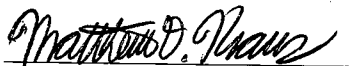
Laboratory Performance: Lead was qualified due to laboratory blank contamination.

Other Factors Affecting Data Quality: None.

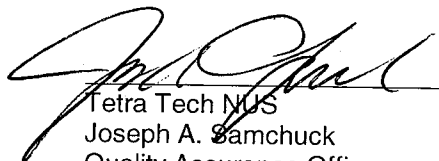
The data for these analyses were reviewed with reference to the "National Functional Guidelines for Inorganic Data Review", October 2004, and the Department of Defense (DoD) document entitled "Quality Systems Manual (QSM) for Environmental Laboratories" (January 2006).

The text of this report has been formulated to address only those problem areas affecting data quality.

"I attest that the data referenced herein were validated according to the agreed upon validation criteria as specified in the DoD QSM and the Quality Assurance Project Plan (QAPP)."



Tetra Tech NUS
Matthew D. Kraus
Environmental Chemist



Tetra Tech NUS
Joseph A. Samchuck
Quality Assurance Officer

Attachments:

1. Appendix A - Qualified Analytical Results
2. Appendix B - Results as reported by the Laboratory
3. Appendix C - Support Documentation

APPENDIX A
QUALIFIED ANALYTICAL RESULTS

Data Validation Qualifier Codes:

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- D = MS/MSD Recovery Noncompliance
- E = LCS/LCSD Recovery Noncompliance
- F = Lab Duplicate Imprecision
- G = Field Duplicate Imprecision
- H = Holding Time Exceedance
- I = ICP Serial Dilution Noncompliance
- J = GFAA PDS - GFAA MSA's $r < 0.995$
- K = ICP Interference - includes ICS % R Noncompliance
- L = Instrument Calibration Range Exceedance
- M = Sample Preservation Noncompliance
- N = Internal Standard Noncompliance
- N01 = Internal Standard Recovery Noncompliance Dioxins
- N02 = Recovery Standard Noncompliance Dioxins
- N03 = Clean-up Standard Noncompliance Dioxins
- O = Poor Instrument Performance (e.g. base-line drifting)
- P = Uncertainty near detection limit ($< 2 \times \text{IDL}$ for inorganics and $< \text{CRQL}$ for organics)
- Q = Other problems (can encompass a number of issues; e.g. chromatography, interferences, etc.)
- R = Surrogates Recovery Noncompliance
- S = Pesticide/PCB Resolution
- T = % Breakdown Noncompliance for DDT and Endrin
- U = % Difference between columns/detectors $> 25\%$ for positive results determined via GC/HPLC
- V = Non-linear calibrations; correlation coefficient $r < 0.995$
- W = EMPC result
- X = Signal to noise response drop
- Y = Percent solids $< 30\%$
- Z = Uncertainty at 2 sigma deviation is greater than sample activity

PROJ_NO: 00583

SDG: CTO056-6 MEDIA: WATER DATA FRACTION: M

7-13-07
✓

nsample	PEN21GW31R01	nsample	PEN21GW46R01	nsample	PEN21GW5401
samp_date	5/10/2007	samp_date	5/10/2007	samp_date	5/10/2007
lab_id	SA2239-007	lab_id	SA2239-011	lab_id	SA2239-005
qc_type	NM	qc_type	NM	qc_type	NM
units	UG/L	units	UG/L	units	UG/L
Pct_Solids	0.0	Pct_Solids	0.0	Pct_Solids	0.0
DUP_OF:		DUP_OF:		DUP_OF:	

Parameter	Result	Val Qual	Qual Code
LEAD	5.7	J	M

Parameter	Result	Val Qual	Qual Code
LEAD	14.2		

Parameter	Result	Val Qual	Qual Code
LEAD	1.8	U	A

PROJ_NO: 00583

SDG: CTO056-6 MEDIA: WATER DATA FRACTION: M

nsample	PEN21GW7301	nsample	PEN21GW7401	nsample	PEN21GW7501
samp_date	5/10/2007	samp_date	5/10/2007	samp_date	5/10/2007
lab_id	SA2239-010	lab_id	SA2239-008	lab_id	SA2239-009
qc_type	NM	qc_type	NM	qc_type	NM
units	UG/L	units	UG/L	units	UG/L
Pct_Solids	0.0	Pct_Solids	0.0	Pct_Solids	0.0
DUP_OF:		DUP_OF:		DUP_OF:	

Parameter	Result	Val	Qual	Qual
		Qual	Qual	Code
LEAD	63.7			

Parameter	Result	Val	Qual	Qual
		Qual	Qual	Code
LEAD	31.4			

Parameter	Result	Val	Qual	Qual
		Qual	Qual	Code
LEAD	8.5			

PROJ_NO: 00583

SDG: CTO056-6 MEDIA: WATER DATA FRACTION: M

nsample PEN21GW7601
samp_date 5/10/2007
lab_id SA2239-006
qc_type NM
units UG/L
Pct_Solids 0.0

DUP_OF:

Parameter	Result	Val Qual	Qual Code
LEAD	27.1		

APPENDIX B
RESULTS AS REPORTED BY THE LABORATORY

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services

Client Field ID: PEN21GW31R01

Matrix: WATER

SDG Name: CTO056-6

Percent Solids: 0.00

Lab Sample ID: SA2239-007

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	Adjusted PQL	Adjusted IDL
7439-92-1	LEAD, TOTAL	5.7			P	1	5.0	0.91

Bottle ID: A

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services

Client Field ID: PEN21GW46R01

Matrix: WATER

SDG Name: CTO056-6

Percent Solids: 0.00

Lab Sample ID: SA2239-011

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	Adjusted PQL	Adjusted IDL
7439-92-1	LEAD, TOTAL	14.2			P	1	5.0	0.91

Bottle ID: D

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services

Client Field ID: PEN21GW5401

Matrix: WATER

SDG Name: CTO056-6

Percent Solids: 0.00

Lab Sample ID: SA2239-005

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	Adjusted PQL	Adjusted IDL
7439-92-1	LEAD, TOTAL	1.8	I		P	1	5.0	0.91

Bottle ID: A

Comments:

FORM I - IN

Katahdin Analytical Services 4000005

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services

Client Field ID: PEN21GW7301

Matrix: WATER

SDG Name: CTO056-6

Percent Solids: 0.00

Lab Sample ID: SA2239-010

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	Adjusted PQL	Adjusted IDL
7439-92-1	LEAD, TOTAL	63.7			P	1	5.0	0.91

Bottle ID: D

Comments:

FORM I - IN

Katahdin Analytical Services 4000010

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services

Client Field ID: PEN21GW7401

Matrix: WATER

SDG Name: CTO056-6

Percent Solids: 0.00

Lab Sample ID: SA2239-008

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	Adjusted PQL	Adjusted IDL
7439-92-1	LEAD, TOTAL	31.4			P	1	5.0	0.91

Bottle ID: D

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services

Client Field ID: PEN21GW7501

Matrix: WATER

SDG Name: CTO056-6

Percent Solids: 0.00

Lab Sample ID: SA2239-009

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	Adjusted PQL	Adjusted IDL
7439-92-1	LEAD, TOTAL	8.5			P	1	5.0	0.91

Bottle ID: D

Comments:

FORM I - IN

Katahdin Analytical Services 4000009

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services

Client Field ID: PEN21GW7601

Matrix: WATER

SDG Name: CTO056-6

Percent Solids: 0.00

Lab Sample ID: SA2239-006

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	Adjusted PQL	Adjusted IDL
7439-92-1	LEAD, TOTAL	27.1			P	1	5.0	0.91

Bottle ID: D

Comments:



Tetra Tech NUS

INTERNAL CORRESPONDENCE

TO: MR. G. WALKER **DATE:** JULY 20, 2007
FROM: EDWARD SEDLMYER **COPIES:** DV FILE
SUBJECT: ORGANIC DATA VALIDATION- VOA/PAH/TPH
 CTO 0056, NAS PENSACOLA
 SDG CTO056-6

SAMPLES: 10/Aqueous

PEN21GW3802	PEN21GW3802D	PEN21GW46R01
PEN21GW5101	PEN21GW5202	PEN21GW7301
PEN21GW7401	PEN21GW7501	PEN21GW7601
TB051007		

OVERVIEW

The sample set for CTO 0056, NAS Pensacola, SDG CTO056-6 consists of one (1) trip blank and nine (9) aqueous environmental samples. The following field duplicate pair was associated with this SDG: PEN21GW3802/ PEN21GW3802D. All samples were analyzed for BTEX volatile organic compounds (VOCs), polynuclear aromatic hydrocarbons (PAHs), and total petroleum hydrocarbon (TPH). The trip blank was analyzed for VOCs only.

The samples were collected by TetraTech NUS on May 10, 2007 and analyzed by Katahdin Analytical Services, Inc. All analyses were conducted in accordance with SW-846 Methods 8260B, 8270SIM, and FDEP FL-PRO (TPH) analytical and reporting protocols. The data contained in this SDG were validated with regard to the following parameters:

- * • Data completeness
- * • Holding times
- Initial/continuing calibrations
- * • Laboratory method blank results
- Field Duplicate Results
- * • Detection Limits

The symbol (*) indicates that quality control criteria were met for this parameter. Problems affecting data quality are discussed below; documentation supporting these findings is presented in Appendix C. Qualified Analytical results are presented in Appendix A. Results as reported by the laboratory are presented in Appendix B.

Volatiles

The field duplicate precision exceeded the 30% relative percent difference (RPD) quality control limit for ethylbenzene in the field duplicate pair PEN21GW3802 / PEN21GW3802D. The positive results for ethylbenzene in the duplicate samples PEN21GW3802 / PEN21GW3802D were qualified as estimated (J).

Sample PEN21GW7301 required a 5X dilution for ethylbenzene because of a concentrations greater than the linear calibration range of the instrument. The ethylbenzene result for sample PEN21GW7301 was reported from the diluted analysis. All other results were reported from the undiluted analysis.

PAHs

Samples PEN21GW3802, PEN21GW3802D, PEN21GW5202, PEN21GW7301, PEN21GW7401, PEN21GW7501, and PEN21GW7601 required dilutions for naphthalene, 1-methylnaphthalene, and/or 2-methylnaphthalene because of concentrations greater than the linear calibration range of the instrument. The naphthalene, 1-methylnaphthalene, and/or 2-methylnaphthalene results were reported from the diluted analyses. All other results are reported from the undiluted analysis.

The continuing calibration analyzed on 05/22/07 @10:38 had percent differences greater than 25% for 2-methylnaphthalene and benzo(a)anthracene. The positive results for samples PEN21GW7601, PEN21GW3802, and PEN21GW5202 were qualified as estimated, J.

TPH

No qualification of the data was necessary.

Additional Comments:

Positive results less than the reporting limit (RL) were qualified as estimated "J", due to uncertainty near the detection limit.

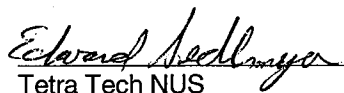
EXECUTIVE SUMMARY

Laboratory Performance Issues: Several minor continuing calibration noncompliances were noted for the PAH fraction.

Other Factors Affecting Data Quality: Field duplicate imprecision resulted in the qualification of one VOC compound in the field duplicate pair.

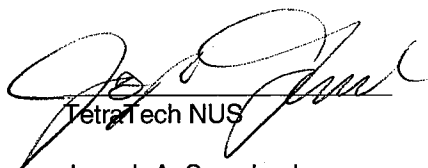
The data for these analyses were reviewed with reference to the EPA Functional Guidelines for Organic Data Validation (10/99) and the Department of Defense (DoD) document entitled "Quality Systems Manual (QSM) for Environmental Laboratories" (January 2006). The text of this report has been formulated to address only those problem areas affecting data quality.

"I attest that the data referenced herein were validated according to the agreed upon validation criteria as specified in the DoD QSM for Environmental Laboratories.



Tetra Tech NUS

Edward Sedlmyer
Chemist/Data Validator



Tetra Tech NUS

Joseph A. Samchuck
Data Validation Quality Assurance Officer

Attachments:

Appendix A – Qualified Analytical Results
Appendix B – Results as Reported by the Laboratory
Appendix C – Support Documentation

PROJ_NO: 00583

SDG: CTO056-6 MEDIA: WATER DATA FRACTION: OV

nsample PEN21GW3802
samp_date 5/10/2007
lab_id SA2239-3
qc_type NM
units UG/L
Pct_Solids 0.0
DUP_OF:

nsample
samp_date
lab_id
qc_type
units
Pct_Solids
DUP_OF:

PEN21GW3802D
5/10/2007
SA2239-4
NM
UG/L
0.0
PEN21GW3802

nsample
samp_date
lab_id
qc_type
units
Pct_Solids
DUP_OF:

PEN21GW46R01RA
5/10/2007
SA2239-11RA
NM
UG/L
0.0

Parameter	Result	Val	Qual	Qual
BENZENE	0.5	U		
ETHYLBENZENE	2	J	G	
M+P-XYLENES	17			
O-XYLENE	2			
TOLUENE	0.4	U		
TOTAL XYLENES	19			

Parameter	Result	Val	Qual	Qual
BENZENE	0.5	U		
ETHYLBENZENE	4	J	G	
M+P-XYLENES	23			
O-XYLENE	2			
TOLUENE	0.4	U		
TOTAL XYLENES	25			

Parameter	Result	Val	Qual	Qual
BENZENE	0.5	U		
ETHYLBENZENE	0.3	U		
M+P-XYLENES	1	U		
O-XYLENE	0.4	U		
TOLUENE	0.4	U		
TOTAL XYLENES	1	U		

PROJ_NO: 00583

SDG: CTO056-6 MEDIA: WATER DATA FRACTION: OV

nsample	PEN21GW5101	nsample	PEN21GW5202	nsample	PEN21GW7301
samp_date	5/10/2007	samp_date	5/10/2007	samp_date	5/10/2007
lab_id	SA2239-2	lab_id	SA2239-1	lab_id	SA2239-10
qc_type	NM	qc_type	NM	qc_type	NM
units	UG/L	units	UG/L	units	UG/L
Pct_Solids	0.0	Pct_Solids	0.0	Pct_Solids	0.0
DUP_OF:		DUP_OF:		DUP_OF:	

Parameter	Result	Val Qual	Qual Code
BENZENE	0.5	U	
ETHYLBENZENE	0.3	U	
M+P-XYLENES	1	U	
O-XYLENE	0.4	U	
TOLUENE	0.4	U	
TOTAL XYLENES	1	U	

Parameter	Result	Val Qual	Qual Code
BENZENE	0.5	U	
ETHYLBENZENE	0.3	U	
M+P-XYLENES	1	U	
O-XYLENE	0.4	U	
TOLUENE	0.4	U	
TOTAL XYLENES	1	U	

Parameter	Result	Val Qual	Qual Code
BENZENE	0.5	U	
M+P-XYLENES	41		
O-XYLENE	11		
TOLUENE	3		
TOTAL XYLENES	52		

PROJ_NO: 00583

SDG: CTO056-6 MEDIA: WATER DATA FRACTION: OV

nsample PEN21GW7301DL
samp_date 5/10/2007
lab_id SA2239-10DL
qc_type NM
units UG/L
Pct_Solids 0.0
DUP_OF:

Parameter	Result	Val Qual	Qual Code
ETHYLBENZENE	350		

nsample
samp_date
lab_id
qc_type
units
Pct_Solids
DUP_OF:

Parameter	Result	Val Qual	Qual Code
BENZENE	0.5	U	
ETHYLBENZENE	120		
M+P-XYLENES	190		
O-XYLENE	0.4	U	
TOLUENE	6		
TOTAL XYLENES	190		

nsample PEN21GW7401
samp_date 5/10/2007
lab_id SA2239-8
qc_type NM
units UG/L
Pct_Solids 0.0
DUP_OF:

Parameter	Result	Val Qual	Qual Code
BENZENE	0.5	U	
ETHYLBENZENE	120		
M+P-XYLENES	190		
O-XYLENE	0.4	U	
TOLUENE	6		
TOTAL XYLENES	190		

nsample
samp_date
lab_id
qc_type
units
Pct_Solids
DUP_OF:

Parameter	Result	Val Qual	Qual Code
BENZENE	0.5	U	
ETHYLBENZENE	6		
M+P-XYLENES	10		
O-XYLENE	0.4	U	
TOLUENE	0.4	U	
TOTAL XYLENES	10		

nsample PEN21GW7501
samp_date 5/10/2007
lab_id SA2239-9
qc_type NM
units UG/L
Pct_Solids 0.0
DUP_OF:

PROJ_NO: 00583

SDG: CTO056-6 MEDIA: WATER DATA FRACTION: OV

nsample	PEN21GW7601	nsample	TB051007
samp_date	5/10/2007	samp_date	4/25/2007
lab_id	SA2239-6	lab_id	SA2239-12
qc_type	NM	qc_type	NM
units	UG/L	units	UG/L
Pct_Solids	0.0	Pct_Solids	0.0
DUP_OF:		DUP_OF:	

Parameter	Result	Val	Qual	Code
BENZENE	0.5	U		
ETHYLBENZENE	45			
M+P-XYLENES	200			
O-XYLENE	9			
TOLUENE	12			
TOTAL XYLENES	200			

Parameter	Result	Val	Qual	Code
BENZENE	0.5	U		
ETHYLBENZENE	0.3	U		
M+P-XYLENES	1	U		
O-XYLENE	0.4	U		
TOLUENE	0.4	U		
TOTAL XYLENES	1	U		

PROJ_NO: 00583

SDG: CTO056-6 MEDIA: WATER DATA FRACTION: PAH

nsample
smp_date
lab_id
qc_type
units
Pct_Solids
DUP_OF:

nsample
smp_date
lab_id
qc_type
units
Pct_Solids
DUP_OF:

nsample
smp_date
lab_id
qc_type
units
Pct_Solids
DUP_OF:

Parameter	Result	Val	Qual	Qual
ACENAPHTHENE	1			
ACENAPHTHYLENE	0.06	U		
ANTHRACENE	0.06	U		
BENZO(A)ANTHRACENE	0.07	U		
BENZO(A)PYRENE	0.05	U		
BENZO(B)FLUORANTHENE	0.08	U		
BENZO(G,H,I)PERYLENE	0.09	U		
BENZO(K)FLUORANTHENE	0.1	U		
CHRYSENE	0.07	U		
DIBENZO(A,H)ANTHRACENE	0.1	U		
FLUORANTHENE	0.06	U		
FLUORENE	0.09	J	P	
INDENO(1,2,3-CD)PYRENE	0.1	U		
PHENANTHRENE	0.05	U		
PYRENE	0.06	U		

Parameter	Result	Val	Qual	Qual
ACENAPHTHENE	1			
ACENAPHTHYLENE	0.06	U		
ANTHRACENE	0.06	U		
BENZO(A)ANTHRACENE	0.07	U		
BENZO(A)PYRENE	0.05	U		
BENZO(B)FLUORANTHENE	0.08	U		
BENZO(G,H,I)PERYLENE	0.09	U		
BENZO(K)FLUORANTHENE	0.1	U		
CHRYSENE	0.07	U		
DIBENZO(A,H)ANTHRACENE	0.1	U		
FLUORANTHENE	0.06	U		
FLUORENE	0.6			
INDENO(1,2,3-CD)PYRENE	0.1	U		
PHENANTHRENE	0.05	U		
PYRENE	0.06	U		

Parameter	Result	Val	Qual	Qual
1-METHYLNAPHTHALENE	58			
2-METHYLNAPHTHALENE	99	J	C	
NAPHTHALENE	32			

PROJ_NO: 00583

SDG: CTO056-6 MEDIA: WATER DATA FRACTION: PAH

nsample PEN21GW3802DL
samp_date 5/10/2007
lab_id SA2239-3DL
qc_type NM
units UG/L
Pct_Solids 0.0
DUP_OF:

nsample PEN21GW46R01
samp_date 5/10/2007
lab_id SA2239-11
qc_type NM
units UG/L
Pct_Solids 0.0
DUP_OF:

nsample PEN21GW5101
samp_date 5/10/2007
lab_id SA2239-2
qc_type NM
units UG/L
Pct_Solids 0.0
DUP_OF:

Parameter	Result	Val Qual	Qual Code
1-METHYLNAPHTHALENE	62		
2-METHYLNAPHTHALENE	100	J C	
NAPHTHALENE	31		

Parameter	Result	Val Qual	Qual Code
1-METHYLNAPHTHALENE	0.4		
2-METHYLNAPHTHALENE	0.2	J P	
ACENAPHTHENE	0.4		
ACENAPHTHYLENE	0.06	U	
ANTHRACENE	0.06	U	
BENZO(A)ANTHRACENE	0.07	U	
BENZO(A)PYRENE	0.05	U	
BENZO(B)FLUORANTHENE	0.08	U	
BENZO(G,H,I)PERYLENE	0.09	U	
BENZO(K)FLUORANTHENE	0.1	U	
CHRYSENE	0.07	U	
DIBENZO(A,H)ANTHRACENE	0.1	U	
FLUORANTHENE	0.06	U	
FLUORENE	0.1	J P	
INDENO(1,2,3-CD)PYRENE	0.1	U	
NAPHTHALENE	0.4		
PHENANTHRENE	0.06	J P	
PYRENE	0.06	U	

Parameter	Result	Val Qual	Qual Code
1-METHYLNAPHTHALENE	1		
2-METHYLNAPHTHALENE	1		
ACENAPHTHENE	0.07	U	
ACENAPHTHYLENE	0.06	U	
ANTHRACENE	0.06	U	
BENZO(A)ANTHRACENE	0.07	U	
BENZO(A)PYRENE	0.05	U	
BENZO(B)FLUORANTHENE	0.08	U	
BENZO(G,H,I)PERYLENE	0.08	U	
BENZO(K)FLUORANTHENE	0.1	U	
CHRYSENE	0.07	U	
DIBENZO(A,H)ANTHRACENE	0.1	U	
FLUORANTHENE	0.06	U	
FLUORENE	0.07	U	
INDENO(1,2,3-CD)PYRENE	0.09	U	
NAPHTHALENE	0.5		
PHENANTHRENE	0.05	U	
PYRENE	0.06	U	

PROJ_NO: 00583

SDG: CTO056-6 MEDIA: WATER DATA FRACTION: PAH

nsample
smp_date
lab_id
qc_type
units
Pct_Solids
DUP_OF:

nsample
smp_date
lab_id
qc_type
units
Pct_Solids
DUP_OF:

nsample
smp_date
lab_id
qc_type
units
Pct_Solids
DUP_OF:

Parameter	Result	Val	Qual	Qual
ACENAPHTHENE	1			
ACENAPHTHYLENE	0.06	U		
ANTHRACENE	0.06	U		
BENZO(A)ANTHRACENE	0.07	U		
BENZO(A)PYRENE	0.05	U		
BENZO(B)FLUORANTHENE	0.08	U		
BENZO(G,H,I)PERYLENE	0.09	U		
BENZO(K)FLUORANTHENE	0.1	U		
CHRYSENE	0.07	U		
DIBENZO(A,H)ANTHRACENE	0.1	U		
FLUORANTHENE	0.06	U		
FLUORENE	0.7			
INDENO(1,2,3-CD)PYRENE	0.1	U		
PHENANTHRENE	0.05	U		
PYRENE	0.06	U		

Parameter	Result	Val	Qual	Qual
1-METHYLNAPHTHALENE	130			
2-METHYLNAPHTHALENE	140	J		C
NAPHTHALENE	140			

Parameter	Result	Val	Qual	Qual
1-METHYLNAPHTHALENE	4			
ACENAPHTHENE	0.1	J		P
ACENAPHTHYLENE	0.06	U		
ANTHRACENE	0.06	U		
BENZO(A)ANTHRACENE	0.07	U		
BENZO(A)PYRENE	0.05	U		
BENZO(B)FLUORANTHENE	0.08	U		
BENZO(G,H,I)PERYLENE	0.09	U		
BENZO(K)FLUORANTHENE	0.1	U		
CHRYSENE	0.07	U		
DIBENZO(A,H)ANTHRACENE	0.1	U		
FLUORANTHENE	0.08	J		P
FLUORENE	0.07	U		
INDENO(1,2,3-CD)PYRENE	0.1	U		
PHENANTHRENE	0.05	U		
PYRENE	0.09	J		P

PROJ_NO: 00583

SDG: CTO056-6 MEDIA: WATER DATA FRACTION: PAH

nsample PEN21GW7301DL
samp_date 5/10/2007
lab_id SA2239-10DL
qc_type NM
units UG/L
Pct_Solids 0.0
DUP_OF:

Parameter	Result	Val	Qual	Code
2-METHYLNAPHTHALENE	6			
NAPHTHALENE	35			

nsample PEN21GW7401
samp_date 5/10/2007
lab_id SA2239-8
qc_type NM
units UG/L
Pct_Solids 0.0
DUP_OF:

Parameter	Result	Val	Qual	Code
1-METHYLNAPHTHALENE	3			
2-METHYLNAPHTHALENE	4			
ACENAPHTHENE	0.07	U		
ACENAPHTHYLENE	0.06	U		
ANTHRACENE	0.06	U		
BENZO(A)ANTHRACENE	0.07	U		
BENZO(A)PYRENE	0.05	U		
BENZO(B)FLUORANTHENE	0.08	U		
BENZO(G,H,I)PERYLENE	0.08	U		
BENZO(K)FLUORANTHENE	0.1	U		
CHRYSENE	0.07	U		
DIBENZO(A,H)ANTHRACENE	0.1	U		
FLUORANTHENE	0.1	J	P	
FLUORENE	0.07	U		
INDENO(1,2,3-CD)PYRENE	0.09	U		
PHENANTHRENE	0.1	J	P	
PYRENE	0.1	J	P	

nsample PEN21GW7401DL
samp_date 5/10/2007
lab_id SA2239-8DL
qc_type NM
units UG/L
Pct_Solids 0.0
DUP_OF:

Parameter	Result	Val	Qual	Code
NAPHTHALENE	10			

PROJ_NO: 00583

SDG: CTO056-6 MEDIA: WATER DATA FRACTION: PAH

nsample
smp_date
lab_id
qc_type
units
Pct_Solids
DUP_OF:

nsample
smp_date
lab_id
qc_type
units
Pct_Solids
DUP_OF:

nsample
smp_date
lab_id
qc_type
units
Pct_Solids
DUP_OF:

Parameter	Result	Val	Qual	Code
1-METHYLNAPHTHALENE	0.5			
2-METHYLNAPHTHALENE	0.6			
ACENAPHTHENE	0.2			
ACENAPHTHYLENE	0.06	U		
ANTHRACENE	0.06	U		
BENZO(A)ANTHRACENE	0.08	J	P	
BENZO(A)PYRENE	0.1	J	P	
BENZO(B)FLUORANTHENE	0.2	J	P	
BENZO(G,H,I)PERYLENE	0.2	J	P	
BENZO(K)FLUORANTHENE	0.1	J	P	
CHRYSENE	0.07	J	P	
DIBENZO(A,H)ANTHRACENE	0.1	J	P	
FLUORANTHENE	0.06	U		
FLUORENE	0.1	J	P	
INDENO(1,2,3-CD)PYRENE	0.09	U		
PHENANTHRENE	0.05	U		
PYRENE	0.06	U		

Parameter	Result	Val	Qual	Code
NAPHTHALENE	8			

Parameter	Result	Val	Qual	Code
1-METHYLNAPHTHALENE	2			
2-METHYLNAPHTHALENE	3			
ACENAPHTHENE	0.07	U		
ACENAPHTHYLENE	0.06	U		
ANTHRACENE	0.06	U		
BENZO(A)ANTHRACENE	0.07	U		
BENZO(A)PYRENE	0.05	U		
BENZO(B)FLUORANTHENE	0.08	U		
BENZO(G,H,I)PERYLENE	0.08	U		
BENZO(K)FLUORANTHENE	0.1	U		
CHRYSENE	0.07	U		
DIBENZO(A,H)ANTHRACENE	0.1	U		
FLUORANTHENE	0.06	U		
FLUORENE	0.07	U		
INDENO(1,2,3-CD)PYRENE	0.09	U		
PHENANTHRENE	0.05	U		
PYRENE	0.06	U		

PROJ_NO: 00583

SDG: CTO056-6 MEDIA: WATER DATA FRACTION: PAH

nsample PEN21GW7601DL
samp_date 5/10/2007
lab_id SA2239-6DL
qc_type NM
units UG/L
Pct_Solids 0.0
DUP_OF:

Parameter	Result	Val Qual	Qual Code
NAPHTHALENE	9		

PROJ_NO: 00583

SDG: CTO056-6 MEDIA: WATER DATA FRACTION: PET

nsample	PEN21GW3802DDL	nsample	PEN21GW3802DL	nsample	PEN21GW46R01
samp_date	5/10/2007	samp_date	5/10/2007	samp_date	5/10/2007
lab_id	SA2239-4DL	lab_id	SA2239-3DL	lab_id	SA2239-11
qc_type	NM	qc_type	NM	qc_type	NM
units	UG/L	units	UG/L	units	UG/L
Pct_Solids	0.0	Pct_Solids	0.0	Pct_Solids	0.0
DUP_OF:	PEN21GW3802	DUP_OF:		DUP_OF:	
Parameter	Result	Lab	Val	Qual	Code
TPH (C08-C40)	16000				
Parameter	Result	Lab	Val	Qual	Code
TPH (C08-C40)	18000				
Parameter	Result	Lab	Val	Qual	Code
TPH (C08-C40)	2100				

PROJ_NO: 00583

SDG: CTO056-6 MEDIA: WATER DATA FRACTION: PET

nsample	PEN21GW5101RA2	nsample	PEN21GW5202RA	nsample	PEN21GW7301RA					
samp_date	5/10/2007	samp_date	5/10/2007	samp_date	5/10/2007					
lab_id	SA2239-2RA2	lab_id	SA2239-1RA	lab_id	SA2239-10RA					
qc_type	NM	qc_type	NM	qc_type	NM					
units	UG/L	units	UG/L	units	UG/L					
Pct_Solids	0.0	Pct_Solids	0.0	Pct_Solids	0.0					
DUP_OF:		DUP_OF:		DUP_OF:						
Parameter	Result	Lab Qual	Val Qual	Parameter	Result	Lab Qual	Val Qual			
TPH (C08-C40)	290	I	J	P	TPH (C08-C40)	3100		TPH (C08-C40)	2300	

PROJ_NO: 00583

SDG: CTO056-6 MEDIA: WATER DATA FRACTION: PET

nsample	PEN21GW7401	nsample	PEN21GW7501RA	nsample	PEN21GW7601		
samp_date	5/10/2007	samp_date	5/10/2007	samp_date	5/10/2007		
lab_id	SA2239-8	lab_id	SA2239-9RA	lab_id	SA2239-6		
qc_type	NM	qc_type	NM	qc_type	NM		
units	UG/L	units	UG/L	units	UG/L		
Pct_Solids	0.0	Pct_Solids	0.0	Pct_Solids	0.0		
DUP_OF:		DUP_OF:		DUP_OF:			
Parameter	Result	Lab Qual	Val Qual	Parameter	Result	Lab Qual	Val Qual
TPH (C08-C40)	2300			TPH (C08-C40)	1400		
				TPH (C08-C40)	3700		

APPENDIX A

QUALIFIED ANALYTICAL RESULTS

Data Validation Qualifier Codes:

- A = Lab Blank Contamination
- B = Field Blank Contamination
- C = Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
- C01 = GC/MS Tuning Noncompliance
- D = MS/MSD Recovery Noncompliance
- E = LCS/LCSD Recovery Noncompliance
- F = Lab Duplicate Imprecision
- G = Field Duplicate Imprecision
- H = Holding Time Exceedance
- I = ICP Serial Dilution Noncompliance
- J = GFAA PDS - GFAA MSA's $r < 0.995$ / ICP PDS Recovery Noncompliance
- K = ICP Interference - includes ICS % R Noncompliance
- L = Instrument Calibration Range Exceedance
- M = Sample Preservation Noncompliance
- N = Internal Standard Noncompliance
- N01 = Internal Standard Recovery Noncompliance Dioxins
- N02 = Recovery Standard Noncompliance Dioxins
- N03 = Clean-up Standard Noncompliance Dioxins
- O = Poor Instrument Performance (e.g. base-line drifting)
- P = Uncertainty near detection limit ($< 2 \times$ IDL for inorganics and $< \text{CRQL}$ for organics)
- Q = Other problems (can encompass a number of issues; e.g. chromatography, interferences, etc.)
- R = Surrogates Recovery Noncompliance
- S = Pesticide/PCB Resolution
- T = % Breakdown Noncompliance for DDT and Endrin
- U = % Difference between columns/detectors $> 25\%$ for positive results determined via GC/HPLC
- V = Non-linear calibrations; correlation coefficient $r < 0.995$
- W = EMPC result
- X = Signal to noise response drop
- Y = Percent solids $< 30\%$
- Z = Uncertainty at 2 sigma deviation is greater than sample activity

APPENDIX B

RESULTS AS REPORTED BY THE LABORATORY

KATAHDIN ANALYTICAL SERVICES
Report of Analytical Results

Client: Tetra Tech NUS, Inc
Project: CTO 056 NAS Pensacola
PO No:
Sample Date: 05/10/07
Received Date: 05/11/07
Extraction Date:
Analysis Date: 22-MAY-2007 14:02
Report Date: 05/31/2007
Matrix: WATER
% Solids: NA

Lab ID: SA2239-3
Client ID: PEN21GW3802
SDG: CTO056-6
Extracted by:
Extraction Method: SW846 5030
Analyst: SKT
Analysis Method: SW846 8260B
Lab Prep Batch: WG39161
Units: ug/l

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
71-43-2	Benzene	U	0.5	1.0	1	1	0.5
108-88-3	Toluene	U	0.4	1.0	1	1	0.4
100-41-4	Ethylbenzene		2	1.0	1	1	0.3
1330-20-7	Xylenes (total)		19	1.0	3	3	1
	m+p-Xylenes		17	1.0	2	2	1.0
95-47-6	o-Xylene		2	1.0	1	1	0.4
1868-53-7	Dibromofluoromethane		112%				
17060-07-0	1,2-Dichloroethane-D4		113%				
2037-26-5	Toluene-D8		97%				
460-00-4	P-Bromofluorobenzene		109%				

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KATAHDIN ANALYTICAL SERVICES
Report of Analytical Results

Client: Tetra Tech NUS, Inc
Project: CTO 056 NAS Pensacola
PO No:
Sample Date: 05/10/07
Received Date: 05/11/07
Extraction Date:
Analysis Date: 23-MAY-2007 15:22
Report Date: 05/31/2007
Matrix: WATER
% Solids: NA

Lab ID: SA2239-4
Client ID: PEN21GW3802D
SDG: CTO056-6
Extracted by:
Extraction Method: SW846 5030
Analyst: SKT
Analysis Method: SW846 8260B
Lab Prep Batch: WG39217
Units: ug/l

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
71-43-2	Benzene	U	0.5	1.0	1	1	0.5
108-88-3	Toluene	U	0.4	1.0	1	1	0.4
100-41-4	Ethylbenzene		4	1.0	1	1	0.3
1330-20-7	Xylenes (total)		25	1.0	3	3	1
	m+p-Xylenes		23	1.0	2	2	1.0
95-47-6	o-Xylene		2	1.0	1	1	0.4
1868-53-7	Dibromofluoromethane		92%				
17060-07-0	1,2-Dichloroethane-D4		93%				
2037-26-5	Toluene-D8		91%				
460-00-4	P-Bromofluorobenzene		97%				

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KATAHDIN ANALYTICAL SERVICES
Report of Analytical Results

Client: Tetra Tech NUS, Inc
Project: CTO 056 NAS Pensacola
PO No:
Sample Date: 05/10/07
Received Date: 05/11/07
Extraction Date:
Analysis Date: 24-MAY-2007 14:13
Report Date: 05/31/2007
Matrix: WATER
% Solids: NA

Lab ID: SA2239-11RA
Client ID: PEN21GW46R01
SDG: CTO056-6
Extracted by:
Extraction Method: SW846 5030
Analyst: SKT
Analysis Method: SW846 8260B
Lab Prep Batch: WG39272
Units: ug/l

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
108-88-3	Toluene	U	0.4	1.0	1	1	0.4
71-43-2	Benzene	U	0.5	1.0	1	1	0.5
100-41-4	Ethylbenzene	U	0.3	1.0	1	1	0.3
	m+p-Xylenes	U	1.0	1.0	2	2	1.0
95-47-6	o-Xylene	U	0.4	1.0	1	1	0.4
1330-20-7	Xylenes (total)	U	1	1.0	3	3	1
1868-53-7	Dibromofluoromethane		86%				
17060-07-0	1,2-Dichloroethane-D4		83%				
2037-26-5	Toluene-D8		86%				
460-00-4	P-Bromofluorobenzene		91%				

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KATAHDIN ANALYTICAL SERVICES
Report of Analytical Results

Client: Tetra Tech NUS, Inc
Project: CTO 056 NAS Pensacola
PO No:
Sample Date: 05/10/07
Received Date: 05/11/07
Extraction Date:
Analysis Date: 23-MAY-2007 14:50
Report Date: 05/31/2007
Matrix: WATER
% Solids: NA

Lab ID: SA2239-2
Client ID: PEN21GW5101
SDG: CTO056-6
Extracted by:
Extraction Method: SW846 5030
Analyst: SKT
Analysis Method: SW846 8260B
Lab Prep Batch: WG39217
Units: ug/l

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
71-43-2	Benzene	U	0.5	1.0	1	1	0.5
108-88-3	Toluene	U	0.4	1.0	1	1	0.4
100-41-4	Ethylbenzene	U	0.3	1.0	1	1	0.3
1330-20-7	Xylenes (total)	U	1	1.0	3	3	1
	m+p-Xylenes	U	1.0	1.0	2	2	1.0
95-47-6	o-Xylene	U	0.4	1.0	1	1	0.4
1868-53-7	Dibromofluoromethane		93%				
17060-07-0	1,2-Dichloroethane-D4		96%				
2037-26-5	Toluene-D8		90%				
460-00-4	P-Bromofluorobenzene		94%				

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KATAHDIN ANALYTICAL SERVICES

Report of Analytical Results

Client: Tetra Tech NUS, Inc
 Project: CTO 056 NAS Pensacola
 PO No:
 Sample Date: 05/10/07
 Received Date: 05/11/07
 Extraction Date:
 Analysis Date: 23-MAY-2007 14:18
 Report Date: 05/31/2007
 Matrix: WATER
 % Solids: NA

Lab ID: SA2239-1
 Client ID: PEN21GW5202
 SDG: CTO056-6
 Extracted by:
 Extraction Method: SW846 5030
 Analyst: SKT
 Analysis Method: SW846 8260B
 Lab Prep Batch: WG39217
 Units: ug/l

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
71-43-2	Benzene	U	0.5	1.0	1	1	0.5
108-88-3	Toluene	U	0.4	1.0	1	1	0.4
100-41-4	Ethylbenzene	U	0.3	1.0	1	1	0.3
1330-20-7	Xylenes (total)	U	1	1.0	3	3	1
	m+p-Xylenes	U	1.0	1.0	2	2	1.0
95-47-6	o-Xylene	U	0.4	1.0	1	1	0.4
1868-53-7	Dibromofluoromethane		96%				
17060-07-0	1,2-Dichloroethane-D4		104%				
2037-26-5	Toluene-D8		93%				
460-00-4	P-Bromofluorobenzene		102%				

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KATAHDIN ANALYTICAL SERVICES
Report of Analytical Results

Client: Tetra Tech NUS, Inc
Project: CTO 056 NAS Pensacola
PO No:
Sample Date: 05/10/07
Received Date: 05/11/07
Extraction Date:
Analysis Date: 23-MAY-2007 15:35
Report Date: 05/31/2007
Matrix: WATER
% Solids: NA

Lab ID: SA2239-10
Client ID: PEN21GW7301
SDG: CTO056-6
Extracted by:
Extraction Method: SW846 5030
Analyst: SKT
Analysis Method: SW846 8260B
Lab Prep Batch: WG39218
Units: ug/l

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
108-88-3	Toluene		3	1.0	1	1	0.4
71-43-2	Benzene	U	0.5	1.0	1	1	0.5
100-41-4	Ethylbenzene	L	350	1.0	1	1	0.3
	m+p-Xylenes		41	1.0	2	2	1.0
95-47-6	o-Xylene		11	1.0	1	1	0.4
1330-20-7	Xylenes (total)		52	1.0	3	3	1
1868-53-7	Dibromofluoromethane		89%				
17060-07-0	1,2-Dichloroethane-D4		87%				
2037-26-5	Toluene-D8		90%				
460-00-4	P-Bromofluorobenzene		94%				

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KATAHDIN ANALYTICAL SERVICES
Report of Analytical Results

Client: Tetra Tech NUS, Inc
Project: CTO 056 NAS Pensacola
PO No:
Sample Date: 05/10/07
Received Date: 05/11/07
Extraction Date:
Analysis Date: 24-MAY-2007 14:44
Report Date: 05/31/2007
Matrix: WATER
% Solids: NA

Lab ID: SA2239-10DL
Client ID: PEN21GW7301
SDG: CTO056-6
Extracted by:
Extraction Method: SW846 5030
Analyst: SKT
Analysis Method: SW846 8260B
Lab Prep Batch: WG39272
Units: ug/l

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
108-88-3	Toluene	I	2	5.0	1	5	2
71-43-2	Benzene	U	2	5.0	1	5	2
100-41-4	Ethylbenzene		350	5.0	1	5	2
	m+p-Xylenes		33	5.0	2	10	5
95-47-6	O-Xylene		8	5.0	1	5	2
1330-20-7	Xylenes (total)		41	5.0	3	15	6
1868-53-7	Dibromofluoromethane		87%				
17060-07-0	1,2-Dichloroethane-D4		85%				
2037-26-5	Toluene-D8		87%				
460-00-4	P-Bromofluorobenzene		90%				

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KATAHDIN ANALYTICAL SERVICES
Report of Analytical Results

Client: Tetra Tech NUS, Inc
Project: CTO 056 NAS Pensacola
PO No:
Sample Date: 05/10/07
Received Date: 05/11/07
Extraction Date:
Analysis Date: 23-MAY-2007 16:27
Report Date: 05/31/2007
Matrix: WATER
% Solids: NA

Lab ID: SA2239-8
Client ID: PEN21GW7401
SDG: CTO056-6
Extracted by:
Extraction Method: SW846 5030
Analyst: SKT
Analysis Method: SW846 8260B
Lab Prep Batch: WG39217
Units: ug/l

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
71-43-2	Benzene	U	0.5	1.0	1	1	0.5
108-88-3	Toluene		6	1.0	1	1	0.4
100-41-4	Ethylbenzene		120	1.0	1	1	0.3
1330-20-7	Xylenes (total)		190	1.0	3	3	1
	m+p-Xylenes		190	1.0	2	2	1.0
95-47-6	o-Xylene	U	0.4	1.0	1	1	0.4
1868-53-7	Dibromofluoromethane		88%				
17060-07-0	1,2-Dichloroethane-D4		88%				
2037-26-5	Toluene-D8		92%				
460-00-4	P-Bromofluorobenzene		94%				

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KATAHDIN ANALYTICAL SERVICES
Report of Analytical Results

Client: Tetra Tech NUS, Inc
Project: CTO 056 NAS Pensacola
PO No:
Sample Date: 05/10/07
Received Date: 05/11/07
Extraction Date:
Analysis Date: 23-MAY-2007 16:59
Report Date: 05/31/2007
Matrix: WATER
% Solids: NA

Lab ID: SA2239-9
Client ID: PEN21GW7501
SDG: CTO056-6
Extracted by:
Extraction Method: SW846 5030
Analyst: SKT
Analysis Method: SW846 8260B
Lab Prep Batch: WG39217
Units: ug/l

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
71-43-2	Benzene	U	0.5	1.0	1	1	0.5
108-88-3	Toluene	U	0.4	1.0	1	1	0.4
100-41-4	Ethylbenzene		6	1.0	1	1	0.3
1330-20-7	Xylenes (total)		10	1.0	3	3	1
	m+p-Xylenes		10	1.0	2	2	1.0
95-47-6	o-Xylene	U	0.4	1.0	1	1	0.4
1868-53-7	Dibromofluoromethane		88%				
17060-07-0	1,2-Dichloroethane-D4		87%				
2037-26-5	Toluene-D8		93%				
460-00-4	P-Bromofluorobenzene		97%				

KATAHDIN ANALYTICAL SERVICES

Report of Analytical Results

Client: Tetra Tech NUS, Inc
 Project: CTO 056 NAS Pensacola
 PO No:
 Sample Date: 05/10/07
 Received Date: 05/11/07
 Extraction Date:
 Analysis Date: 23-MAY-2007 15:54
 Report Date: 05/31/2007
 Matrix: WATER
 % Solids: NA

Lab ID: SA2239-6
 Client ID: PEN21GW7601
 SDG: CTO056-6
 Extracted by:
 Extraction Method: SW846 5030
 Analyst: SKT
 Analysis Method: SW846 8260B
 Lab Prep Batch: WG39217
 Units: ug/l

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
71-43-2	Benzene	U	0.5	1.0	1	1	0.5
108-88-3	Toluene		12	1.0	1	1	0.4
100-41-4	Ethylbenzene		45	1.0	1	1	0.3
1330-20-7	Xylenes (total)		200	1.0	3	3	1
	m+p-Xylenes		200	1.0	2	2	1.0
95-47-6	o-Xylene		9	1.0	1	1	0.4
1868-53-7	Dibromofluoromethane		91%				
17060-07-0	1,2-Dichloroethane-D4		90%				
2037-26-5	Toluene-D8		92%				
460-00-4	P-Bromofluorobenzene		95%				

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KATAHDIN ANALYTICAL SERVICES
Report of Analytical Results

Client: Tetra Tech NUS, Inc
Project: CTO 056 NAS Pensacola
PO No:
Sample Date: 04/25/07
Received Date: 05/11/07
Extraction Date:
Analysis Date: 23-MAY-2007 09:29
Report Date: 05/31/2007
Matrix: WATER
% Solids: NA

Lab ID: SA2239-12
Client ID: TB051007
SDG: CTO056-6
Extracted by:
Extraction Method: SW846 5030
Analyst: SKT
Analysis Method: SW846 8260B
Lab Prep Batch: WG39217
Units: ug/l

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
71-43-2	Benzene	U	0.5	1.0	1	1	0.5
108-88-3	Toluene	U	0.4	1.0	1	1	0.4
100-41-4	Ethylbenzene	U	0.3	1.0	1	1	0.3
1330-20-7	Xylenes (total)	U	1	1.0	3	3	1
	m+p-Xylenes	U	1.0	1.0	2	2	1.0
95-47-6	o-Xylene	U	0.4	1.0	1	1	0.4
1868-53-7	Dibromofluoromethane		94%				
17060-07-0	1,2-Dichloroethane-D4		96%				
2037-26-5	Toluene-D8		89%				
460-00-4	P-Bromofluorobenzene		93%				

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KATAHDIN ANALYTICAL SERVICES

Report of Analytical Results

Client: Tetra Tech NUS, Inc
 Project: CTO 056 NAS Pensacola
 PO No:
 Sample Date: 05/10/07
 Received Date: 05/11/07
 Extraction Date: 05/15/07
 Analysis Date: 18-MAY-2007 19:46
 Report Date: 06/04/2007
 Matrix: WATER
 % Solids: NA

Lab ID: SA2239-3
 Client ID: PEN21GW3802
 SDG: CTO056-6
 Extracted by: GN
 Extraction Method: SW846 3510
 Analyst: JCG
 Analysis Method: SW846 M8270C
 Lab Prep Batch: WG38925
 Units: ug/L

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
91-20-3	Naphthalene	L	21	1.0	0.2	0.2	0.1
91-57-6	2-Methylnaphthalene	JL	62	1.0	0.2	0.2	0.07
90-12-0	1-Methylnaphthalene	L	39	1.0	0.2	0.2	0.2
208-96-8	Acenaphthylene	U	0.06	1.0	0.2	0.2	0.06
83-32-9	Acenaphthene		1.0	1.0	0.2	0.2	0.07
86-73-7	Fluorene	I	0.09	1.0	0.2	0.2	0.07
85-01-8	Phenanthrene	U	0.05	1.0	0.2	0.2	0.05
120-12-7	Anthracene	U	0.06	1.0	0.2	0.2	0.06
206-44-0	Fluoranthene	U	0.06	1.0	0.2	0.2	0.06
129-00-0	Pyrene	U	0.06	1.0	0.2	0.2	0.06
56-55-3	Benzo(a)anthracene	U	0.07	1.0	0.2	0.2	0.07
218-01-9	Chrysene	U	0.07	1.0	0.2	0.2	0.07
205-99-2	Benzo(b)fluoranthene	U	0.08	1.0	0.2	0.2	0.08
207-08-9	Benzo(k)fluoranthene	U	0.1	1.0	0.2	0.2	0.1
50-32-8	Benzo(a)pyrene	U	0.05	1.0	0.2	0.2	0.05
193-39-5	Indeno(1,2,3-cd)pyrene	U	0.1	1.0	0.2	0.2	0.1
191-24-2	Benzo(g,h,i)perylene	U	0.09	1.0	0.2	0.2	0.09
53-70-3	Dibenzo(a,h)anthracene	U	0.1	1.0	0.2	0.2	0.1
7297-45-2	2-Methylnaphthalene-d10		71%				
81103-79-9	Fluorene-d10		J 48%				
1718-52-1	Pyrene-d10		50%				

KATAHDIN ANALYTICAL SERVICES

Report of Analytical Results

Client: Tetra Tech NUS, Inc
 Project: CTO 056 NAS Pensacola
 PO No:
 Sample Date: 05/10/07
 Received Date: 05/11/07
 Extraction Date: 05/15/07
 Analysis Date: 22-MAY-2007 16:04
 Report Date: 05/24/2007
 Matrix: WATER
 % Solids: NA

Lab ID: SA2239-3DL
 Client ID: PEN21GW3802
 SDG: CTO056-6
 Extracted by: GN
 Extraction Method: SW846 3510
 Analyst: JCG
 Analysis Method: SW846 M8270C
 Lab Prep Batch: WG38925
 Units: ug/L

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
91-20-3	Naphthalene		31	40	0.2	8	5
91-57-6	2-Methylnaphthalene	J	100	40	0.2	8	3
90-12-0	1-Methylnaphthalene		62	40	0.2	8	6
208-96-8	Acenaphthylene	U	2	40	0.2	8	2
83-32-9	Acenaphthene	U	3	40	0.2	8	3
86-73-7	Fluorene	U	3	40	0.2	8	3
85-01-8	Phenanthrene	U	2	40	0.2	8	2
120-12-7	Anthracene	U	2	40	0.2	8	2
206-44-0	Fluoranthene	U	2	40	0.2	8	2
129-00-0	Pyrene	U	2	40	0.2	8	2
56-55-3	Benzo(a)anthracene	U	3	40	0.2	8	3
218-01-9	Chrysene	U	3	40	0.2	8	3
205-99-2	Benzo(b)fluoranthene	U	3	40	0.2	8	3
207-08-9	Benzo(k)fluoranthene	U	4	40	0.2	8	4
50-32-8	Benzo(a)pyrene	U	2	40	0.2	8	2
193-39-5	Indeno(1,2,3-cd)pyrene	U	4	40	0.2	8	4
191-24-2	Benzo(g,h,i)perylene	U	4	40	0.2	8	4
53-70-3	Dibenzo(a,h)anthracene	U	5	40	0.2	8	5
7297-45-2	2-Methylnaphthalene-d10		D				
81103-79-9	Fluorene-d10		D				
1718-52-1	Pyrene-d10		D				

KATAHDIN ANALYTICAL SERVICES

Report of Analytical Results

Client: Tetra Tech NUS, Inc
 Project: CTO 056 NAS Pensacola
 PO No:
 Sample Date: 05/10/07
 Received Date: 05/11/07
 Extraction Date: 05/15/07
 Analysis Date: 18-MAY-2007 20:35
 Report Date: 06/04/2007
 Matrix: WATER
 % Solids: NA

Lab ID: SA2239-4
 Client ID: PEN21GW3802D
 SDG: CTO056-6
 Extracted by: GN
 Extraction Method: SW846 3510
 Analyst: JCG
 Analysis Method: SW846 M8270C
 Lab Prep Batch: WG38925
 Units: ug/L

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
91-20-3	Naphthalene	L	22	1.0	0.2	0.2	0.1
91-57-6	2-Methylnaphthalene	JL	65	1.0	0.2	0.2	0.07
90-12-0	1-Methylnaphthalene	L	40	1.0	0.2	0.2	0.2
208-96-8	Acenaphthylene	U	0.06	1.0	0.2	0.2	0.06
83-32-9	Acenaphthene		1.0	1.0	0.2	0.2	0.07
86-73-7	Fluorene		0.6	1.0	0.2	0.2	0.07
85-01-8	Phenanthrene	U	0.05	1.0	0.2	0.2	0.05
120-12-7	Anthracene	U	0.06	1.0	0.2	0.2	0.06
206-44-0	Fluoranthene	U	0.06	1.0	0.2	0.2	0.06
129-00-0	Pyrene	U	0.06	1.0	0.2	0.2	0.06
56-55-3	Benzo(a)anthracene	U	0.07	1.0	0.2	0.2	0.07
218-01-9	Chrysene	U	0.07	1.0	0.2	0.2	0.07
205-99-2	Benzo(b)fluoranthene	U	0.08	1.0	0.2	0.2	0.08
207-08-9	Benzo(k)fluoranthene	U	0.1	1.0	0.2	0.2	0.1
50-32-8	Benzo(a)pyrene	U	0.05	1.0	0.2	0.2	0.05
193-39-5	Indeno(1,2,3-cd)pyrene	U	0.1	1.0	0.2	0.2	0.1
191-24-2	Benzo(g,h,i)perylene	U	0.09	1.0	0.2	0.2	0.09
53-70-3	Dibenzo(a,h)anthracene	U	0.1	1.0	0.2	0.2	0.1
7297-45-2	2-Methylnaphthalene-d10		72%				
81103-79-9	Fluorene-d10		J 53%				
1718-52-1	Pyrene-d10		50%				

KATAHDIN ANALYTICAL SERVICES

Report of Analytical Results

Client: Tetra Tech NUS, Inc
 Project: CTO 056 NAS Pensacola
 PO No:
 Sample Date: 05/10/07
 Received Date: 05/11/07
 Extraction Date: 05/15/07
 Analysis Date: 22-MAY-2007 13:00
 Report Date: 05/24/2007
 Matrix: WATER
 % Solids: NA

Lab ID: SA2239-4DL
 Client ID: PEN21GW3802D
 SDG: CTO056-6
 Extracted by: GN
 Extraction Method: SW846 3510
 Analyst: JCG
 Analysis Method: SW846 M8270C
 Lab Prep Batch: WG38925
 Units: ug/L

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
91-20-3	Naphthalene		32	20	0.2	4	2
91-57-6	2-Methylnaphthalene	J	99	20	0.2	4	1
90-12-0	1-Methylnaphthalene		58	20	0.2	4	3
208-96-8	Acenaphthylene	U	1	20	0.2	4	1
83-32-9	Acenaphthene	U	1	20	0.2	4	1
86-73-7	Fluorene	U	1	20	0.2	4	1
85-01-8	Phenanthrene	U	1	20	0.2	4	1
120-12-7	Anthracene	U	1	20	0.2	4	1
206-44-0	Fluoranthene	U	1	20	0.2	4	1
129-00-0	Pyrene	U	1	20	0.2	4	1
56-55-3	Benzo(a)anthracene	U	1	20	0.2	4	1
218-01-9	Chrysene	U	1	20	0.2	4	1
205-99-2	Benzo(b)fluoranthene	U	2	20	0.2	4	2
207-08-9	Benzo(k)fluoranthene	U	2	20	0.2	4	2
50-32-8	Benzo(a)pyrene	U	1	20	0.2	4	1
193-39-5	Indeno(1,2,3-cd)pyrene	U	2	20	0.2	4	2
191-24-2	Benzo(g,h,i)perylene	U	2	20	0.2	4	2
53-70-3	Dibenzo(a,h)anthracene	U	2	20	0.2	4	2
7297-45-2	2-Methylnaphthalene-d10		D				
81103-79-9	Fluorene-d10		D				
1718-52-1	Pyrene-d10		D				

KATAHDIN ANALYTICAL SERVICES

Report of Analytical Results

Client: Tetra Tech NUS, Inc
 Project: CTO 056 NAS Pensacola
 PO No:
 Sample Date: 05/10/07
 Received Date: 05/11/07
 Extraction Date: 05/15/07
 Analysis Date: 21-MAY-2007 17:34
 Report Date: 05/24/2007
 Matrix: WATER
 % Solids: NA

Lab ID: SA2239-11
 Client ID: PEN21GW46R01
 SDG: CTO056-6
 Extracted by: GN
 Extraction Method: SW846 3510
 Analyst: JCG
 Analysis Method: SW846 M8270C
 Lab Prep Batch: WG38925
 Units: ug/L

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
91-20-3	Naphthalene		0.4	1.0	0.2	0.2	0.1
91-57-6	2-Methylnaphthalene	J	0.2	1.0	0.2	0.2	0.07
90-12-0	1-Methylnaphthalene		0.4	1.0	0.2	0.2	0.1
208-96-8	Acenaphthylene	U	0.06	1.0	0.2	0.2	0.06
83-32-9	Acenaphthene		0.4	1.0	0.2	0.2	0.07
86-73-7	Fluorene	I	0.1	1.0	0.2	0.2	0.07
85-01-8	Phenanthrene	I	0.06	1.0	0.2	0.2	0.05
120-12-7	Anthracene	U	0.06	1.0	0.2	0.2	0.06
206-44-0	Fluoranthene	U	0.06	1.0	0.2	0.2	0.06
129-00-0	Pyrene	U	0.06	1.0	0.2	0.2	0.06
56-55-3	Benzo (a) anthracene	U	0.07	1.0	0.2	0.2	0.07
218-01-9	Chrysene	U	0.07	1.0	0.2	0.2	0.07
205-99-2	Benzo (b) fluoranthene	U	0.08	1.0	0.2	0.2	0.08
207-08-9	Benzo (k) fluoranthene	U	0.1	1.0	0.2	0.2	0.1
50-32-8	Benzo (a) pyrene	U	0.05	1.0	0.2	0.2	0.05
193-39-5	Indeno (1,2,3-cd) pyrene	U	0.10	1.0	0.2	0.2	0.10
191-24-2	Benzo (g,h,i) perylene	U	0.09	1.0	0.2	0.2	0.09
53-70-3	Dibenzo (a,h) anthracene	U	0.1	1.0	0.2	0.2	0.1
7297-45-2	2-Methylnaphthalene-d10		61%				
81103-79-9	Fluorene-d10		J 54%				
1718-52-1	Pyrene-d10		58%				

KATAHDIN ANALYTICAL SERVICES

Report of Analytical Results

Client: Tetra Tech NUS, Inc
 Project: CTO 056 NAS Pensacola
 PO NO:
 Sample Date: 05/10/07
 Received Date: 05/11/07
 Extraction Date: 05/15/07
 Analysis Date: 18-MAY-2007 18:58
 Report Date: 05/24/2007
 Matrix: WATER
 % Solids: NA

Lab ID: SA2239-2
 Client ID: PEN21GW5101
 SDG: CTO056-6
 Extracted by: GN
 Extraction Method: SW846 3510
 Analyst: JCG
 Analysis Method: SW846 M8270C
 Lab Prep Batch: WG38925
 Units: ug/L

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
91-20-3	Naphthalene		0.5	1.0	0.2	0.2	0.1
91-57-6	2-Methylnaphthalene	J	1.0	1.0	0.2	0.2	0.07
90-12-0	1-Methylnaphthalene		1	1.0	0.2	0.2	0.1
208-96-8	Acenaphthylene	U	0.06	1.0	0.2	0.2	0.06
83-32-9	Acenaphthene	U	0.07	1.0	0.2	0.2	0.07
86-73-7	Fluorene	U	0.07	1.0	0.2	0.2	0.07
85-01-8	Phenanthrene	U	0.05	1.0	0.2	0.2	0.05
120-12-7	Anthracene	U	0.06	1.0	0.2	0.2	0.06
206-44-0	Fluoranthene	U	0.06	1.0	0.2	0.2	0.06
129-00-0	Pyrene	U	0.06	1.0	0.2	0.2	0.06
56-55-3	Benzo(a)anthracene	U	0.07	1.0	0.2	0.2	0.07
218-01-9	Chrysene	U	0.07	1.0	0.2	0.2	0.07
205-99-2	Benzo(b)fluoranthene	U	0.08	1.0	0.2	0.2	0.08
207-08-9	Benzo(k)fluoranthene	U	0.1	1.0	0.2	0.2	0.1
50-32-8	Benzo(a)pyrene	U	0.05	1.0	0.2	0.2	0.05
193-39-5	Indeno(1,2,3-cd)pyrene	U	0.09	1.0	0.2	0.2	0.09
191-24-2	Benzo(g,h,i)perylene	U	0.08	1.0	0.2	0.2	0.08
53-70-3	Dibenzo(a,h)anthracene	U	0.1	1.0	0.2	0.2	0.1
7297-45-2	2-Methylnaphthalene-d10		55%				
81103-79-9	Fluorene-d10		J 49%				
1718-52-1	Pyrene-d10		52%				

KATAHDIN ANALYTICAL SERVICES

Report of Analytical Results

Client: Tetra Tech NUS, Inc
 Project: CTO 056 NAS Pensacola
 PO NO:
 Sample Date: 05/10/07
 Received Date: 05/11/07
 Extraction Date: 05/15/07
 Analysis Date: 18-MAY-2007 18:09
 Report Date: 05/24/2007
 Matrix: WATER
 % Solids: NA

Lab ID: SA2239-1
 Client ID: PEN21GW5202
 SDG: CTO056-6
 Extracted by: GN
 Extraction Method: SW846 3510
 Analyst: JCG
 Analysis Method: SW846 M8270C
 Lab Prep Batch: WG38925
 Units: ug/L

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
91-20-3	Naphthalene	L	84	1.0	0.2	0.2	0.1
91-57-6	2-Methylnaphthalene	JL	95	1.0	0.2	0.2	0.07
90-12-0	1-Methylnaphthalene	L	80	1.0	0.2	0.2	0.2
208-96-8	Acenaphthylene	U	0.06	1.0	0.2	0.2	0.06
83-32-9	Acenaphthene		1.0	1.0	0.2	0.2	0.07
86-73-7	Fluorene		0.7	1.0	0.2	0.2	0.07
85-01-8	Phenanthrene	U	0.05	1.0	0.2	0.2	0.05
120-12-7	Anthracene	U	0.06	1.0	0.2	0.2	0.06
206-44-0	Fluoranthene	U	0.06	1.0	0.2	0.2	0.06
129-00-0	Pyrene	U	0.06	1.0	0.2	0.2	0.06
56-55-3	Benzo(a)anthracene	U	0.07	1.0	0.2	0.2	0.07
218-01-9	Chrysene	U	0.07	1.0	0.2	0.2	0.07
205-99-2	Benzo(b)fluoranthene	U	0.08	1.0	0.2	0.2	0.08
207-08-9	Benzo(k)fluoranthene	U	0.1	1.0	0.2	0.2	0.1
50-32-8	Benzo(a)pyrene	U	0.05	1.0	0.2	0.2	0.05
193-39-5	Indeno(1,2,3-cd)pyrene	U	0.1	1.0	0.2	0.2	0.1
191-24-2	Benzo(g,h,i)perylene	U	0.09	1.0	0.2	0.2	0.09
53-70-3	Dibenzo(a,h)anthracene	U	0.1	1.0	0.2	0.2	0.1
7297-45-2	2-Methylnaphthalene-d10		70%				
81103-79-9	Fluorene-d10		61%				
1718-52-1	Pyrene-d10		76%				

KATAHDIN ANALYTICAL SERVICES

Report of Analytical Results

Client: Tetra Tech NUS, Inc
 Project: CTO 056 NAS Pensacola
 PO NO:
 Sample Date: 05/10/07
 Received Date: 05/11/07
 Extraction Date: 05/15/07
 Analysis Date: 22-MAY-2007 16:49
 Report Date: 05/24/2007
 Matrix: WATER
 % Solids: NA

Lab ID: SA2239-1DL
 Client ID: PEN21GW5202
 SDG: CTO056-6
 Extracted by: GN
 Extraction Method: SW846 3510
 Analyst: JCG
 Analysis Method: SW846 M8270C
 Lab Prep Batch: WG38925
 Units: ug/L

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
91-20-3	Naphthalene		140	40	0.2	8	5
91-57-6	2-Methylnaphthalene	J	140	40	0.2	8	3
90-12-0	1-Methylnaphthalene		130	40	0.2	8	6
208-96-8	Acenaphthylene	U	2	40	0.2	8	2
83-32-9	Acenaphthene	U	3	40	0.2	8	3
86-73-7	Fluorene	U	3	40	0.2	8	3
85-01-8	Phenanthrene	U	2	40	0.2	8	2
120-12-7	Anthracene	U	2	40	0.2	8	2
206-44-0	Fluoranthene	U	2	40	0.2	8	2
129-00-0	Pyrene	U	2	40	0.2	8	2
56-55-3	Benzo (a) anthracene	U	3	40	0.2	8	3
218-01-9	Chrysene	U	3	40	0.2	8	3
205-99-2	Benzo (b) fluoranthene	U	3	40	0.2	8	3
207-08-9	Benzo (k) fluoranthene	U	4	40	0.2	8	4
50-32-8	Benzo (a) pyrene	U	2	40	0.2	8	2
193-39-5	Indeno (1,2,3-cd) pyrene	U	4	40	0.2	8	4
191-24-2	Benzo (g,h,i) perylene	U	4	40	0.2	8	4
53-70-3	Dibenzo (a,h) anthracene	U	5	40	0.2	8	5
7297-45-2	2-Methylnaphthalene-d10		D				
81103-79-9	Fluorene-d10		D				
1718-52-1	Pyrene-d10		D				

KATAHDIN ANALYTICAL SERVICES

Report of Analytical Results

Client: Tetra Tech NUS, Inc
 Project: CTO 056 NAS Pensacola
 PO No:
 Sample Date: 05/10/07
 Received Date: 05/11/07
 Extraction Date: 05/15/07
 Analysis Date: 21-MAY-2007 16:49
 Report Date: 05/24/2007
 Matrix: WATER
 % Solids: NA

Lab ID: SA2239-10
 Client ID: PEN21GW7301
 SDG: CTO056-6
 Extracted by: GN
 Extraction Method: SW846 3510
 Analyst: JCG
 Analysis Method: SW846 M8270C
 Lab Prep Batch: WG38925
 Units: ug/L

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
91-20-3	Naphthalene	L	28	1.0	0.2	0.2	0.1
91-57-6	2-Methylnaphthalene	JL	6	1.0	0.2	0.2	0.07
90-12-0	1-Methylnaphthalene		4	1.0	0.2	0.2	0.2
208-96-8	Acenaphthylene	U	0.06	1.0	0.2	0.2	0.06
83-32-9	Acenaphthene	I	0.10	1.0	0.2	0.2	0.07
86-73-7	Fluorene	U	0.07	1.0	0.2	0.2	0.07
85-01-8	Phenanthrene	U	0.05	1.0	0.2	0.2	0.05
120-12-7	Anthracene	U	0.06	1.0	0.2	0.2	0.06
206-44-0	Fluoranthene	I	0.08	1.0	0.2	0.2	0.06
129-00-0	Pyrene	I	0.09	1.0	0.2	0.2	0.06
56-55-3	Benzo(a)anthracene	U	0.07	1.0	0.2	0.2	0.07
218-01-9	Chrysene	U	0.07	1.0	0.2	0.2	0.07
205-99-2	Benzo(b)fluoranthene	U	0.08	1.0	0.2	0.2	0.08
207-08-9	Benzo(k)fluoranthene	U	0.1	1.0	0.2	0.2	0.1
50-32-8	Benzo(a)pyrene	U	0.05	1.0	0.2	0.2	0.05
193-39-5	Indeno(1,2,3-cd)pyrene	U	0.1	1.0	0.2	0.2	0.1
191-24-2	Benzo(g,h,i)perylene	U	0.09	1.0	0.2	0.2	0.09
53-70-3	Dibenzo(a,h)anthracene	U	0.1	1.0	0.2	0.2	0.1
7297-45-2	2-Methylnaphthalene-d10		78%				
81103-79-9	Fluorene-d10		65%				
1718-52-1	Pyrene-d10		65%				

KATAHDIN ANALYTICAL SERVICES

Report of Analytical Results

Client: Tetra Tech NUS, Inc
 Project: CTO 056 NAS Pensacola
 PO NO:
 Sample Date: 05/10/07
 Received Date: 05/11/07
 Extraction Date: 05/15/07
 Analysis Date: 21-MAY-2007 23:27
 Report Date: 05/24/2007
 Matrix: WATER
 % Solids: NA

Lab ID: SA2239-10DL
 Client ID: PEN21GW7301
 SDG: CTO056-6
 Extracted by: GN
 Extraction Method: SW846 3510
 Analyst: JCG
 Analysis Method: SW846 M8270C
 Lab Prep Batch: WG38925
 Units: ug/L

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
91-20-3	Naphthalene		35	10	0.2	2	1
91-57-6	2-Methylnaphthalene	J	6	10	0.2	2	0.7
90-12-0	1-Methylnaphthalene		4	10	0.2	2	2
208-96-8	Acenaphthylene	U	0.6	10	0.2	2	0.6
83-32-9	Acenaphthene	U	0.7	10	0.2	2	0.7
86-73-7	Fluorene	U	0.7	10	0.2	2	0.7
85-01-8	Phenanthrene	U	0.5	10	0.2	2	0.5
120-12-7	Anthracene	U	0.6	10	0.2	2	0.6
206-44-0	Fluoranthene	U	0.6	10	0.2	2	0.6
129-00-0	Pyrene	U	0.6	10	0.2	2	0.6
56-55-3	Benzo (a) anthracene	U	0.7	10	0.2	2	0.7
218-01-9	Chrysene	U	0.7	10	0.2	2	0.7
205-99-2	Benzo (b) fluoranthene	U	0.8	10	0.2	2	0.8
207-08-9	Benzo (k) fluoranthene	U	1	10	0.2	2	1
50-32-8	Benzo (a) pyrene	U	0.5	10	0.2	2	0.5
193-39-5	Indeno (1,2,3-cd) pyrene	U	1	10	0.2	2	1
191-24-2	Benzo (g,h,i) perylene	U	0.9	10	0.2	2	0.9
53-70-3	Dibenzo (a,h) anthracene	U	1	10	0.2	2	1
7297-45-2	2-Methylnaphthalene-d10		D				
81103-79-9	Fluorene-d10		D				
1718-52-1	Pyrene-d10		D				

KATAHDIN ANALYTICAL SERVICES

Report of Analytical Results

Client: Tetra Tech NUS, Inc
 Project: CTO 056 NAS Pensacola
 PO No:
 Sample Date: 05/10/07
 Received Date: 05/11/07
 Extraction Date: 05/15/07
 Analysis Date: 21-MAY-2007 15:17
 Report Date: 05/24/2007
 Matrix: WATER
 % Solids: NA

Lab ID: SA2239-8
 Client ID: PEN21GW7401
 SDG: CTO056-6
 Extracted by: GN
 Extraction Method: SW846 3510
 Analyst: JCG
 Analysis Method: SW846 M8270C
 Lab Prep Batch: WG38925
 Units: ug/L

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
91-20-3	Naphthalene	L	9	1.0	0.2	0.2	0.1
91-57-6	2-Methylnaphthalene	J	4	1.0	0.2	0.2	0.07
90-12-0	1-Methylnaphthalene		3	1.0	0.2	0.2	0.1
208-96-8	Acenaphthylene	U	0.06	1.0	0.2	0.2	0.06
83-32-9	Acenaphthene	U	0.07	1.0	0.2	0.2	0.07
86-73-7	Fluorene	U	0.07	1.0	0.2	0.2	0.07
85-01-8	Phenanthrene	I	0.1	1.0	0.2	0.2	0.05
120-12-7	Anthracene	U	0.06	1.0	0.2	0.2	0.06
206-44-0	Fluoranthene	I	0.1	1.0	0.2	0.2	0.06
129-00-0	Pyrene	I	0.1	1.0	0.2	0.2	0.06
56-55-3	Benzo(a)anthracene	U	0.07	1.0	0.2	0.2	0.07
218-01-9	Chrysene	U	0.07	1.0	0.2	0.2	0.07
205-99-2	Benzo(b)fluoranthene	U	0.08	1.0	0.2	0.2	0.08
207-08-9	Benzo(k)fluoranthene	U	0.1	1.0	0.2	0.2	0.1
50-32-8	Benzo(a)pyrene	U	0.05	1.0	0.2	0.2	0.05
193-39-5	Indeno(1,2,3-cd)pyrene	U	0.09	1.0	0.2	0.2	0.09
191-24-2	Benzo(g,h,i)perylene	U	0.08	1.0	0.2	0.2	0.08
53-70-3	Dibenzo(a,h)anthracene	U	0.1	1.0	0.2	0.2	0.1
7297-45-2	2-Methylnaphthalene-d10		63%				
81103-79-9	Fluorene-d10		J 50%				
1718-52-1	Pyrene-d10		61%				

KATAHDIN ANALYTICAL SERVICES

Report of Analytical Results

Client: Tetra Tech NUS, Inc
 Project: CTO 056 NAS Pensacola
 PO No:
 Sample Date: 05/10/07
 Received Date: 05/11/07
 Extraction Date: 05/15/07
 Analysis Date: 21-MAY-2007 19:14
 Report Date: 05/24/2007
 Matrix: WATER
 % Solids: NA

Lab ID: SA2239-8DL
 Client ID: PEN21GW7401
 SDG: CTO056-6
 Extracted by: GN
 Extraction Method: SW846 3510
 Analyst: JCG
 Analysis Method: SW846 M8270C
 Lab Prep Batch: WG38925
 Units: ug/L

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
91-20-3	Naphthalene		10	3.0	0.2	0.6	0.3
91-57-6	2-Methylnaphthalene	J	5	3.0	0.2	0.6	0.2
90-12-0	1-Methylnaphthalene		4	3.0	0.2	0.6	0.4
208-96-8	Acenaphthylene	U	0.2	3.0	0.2	0.6	0.2
83-32-9	Acenaphthene	U	0.2	3.0	0.2	0.6	0.2
86-73-7	Fluorene	U	0.2	3.0	0.2	0.6	0.2
85-01-8	Phenanthrene	U	0.1	3.0	0.2	0.6	0.1
120-12-7	Anthracene	U	0.2	3.0	0.2	0.6	0.2
206-44-0	Fluoranthene	U	0.2	3.0	0.2	0.6	0.2
129-00-0	Pyrene	I	0.2	3.0	0.2	0.6	0.2
56-55-3	Benzo(a)anthracene	U	0.2	3.0	0.2	0.6	0.2
218-01-9	Chrysene	U	0.2	3.0	0.2	0.6	0.2
205-99-2	Benzo(b)fluoranthene	U	0.2	3.0	0.2	0.6	0.2
207-08-9	Benzo(k)fluoranthene	U	0.3	3.0	0.2	0.6	0.3
50-32-8	Benzo(a)pyrene	U	0.1	3.0	0.2	0.6	0.1
193-39-5	Indeno(1,2,3-cd)pyrene	U	0.3	3.0	0.2	0.6	0.3
191-24-2	Benzo(g,h,i)perylene	U	0.2	3.0	0.2	0.6	0.2
53-70-3	Dibenzo(a,h)anthracene	U	0.3	3.0	0.2	0.6	0.3
7297-45-2	2-Methylnaphthalene-d10		61%				
81103-79-9	Fluorene-d10		60%				
1718-52-1	Pyrene-d10		73%				

KATAHDIN ANALYTICAL SERVICES

Report of Analytical Results

Client: Tetra Tech NUS, Inc
 Project: CTO 056 NAS Pensacola
 PO No:
 Sample Date: 05/10/07
 Received Date: 05/11/07
 Extraction Date: 05/15/07
 Analysis Date: 21-MAY-2007 16:03
 Report Date: 05/24/2007
 Matrix: WATER
 % Solids: NA

Lab ID: SA2239-9
 Client ID: PEN21GW7501
 SDG: CTO056-6
 Extracted by: GN
 Extraction Method: SW846 3510
 Analyst: JCG
 Analysis Method: SW846 M8270C
 Lab Prep Batch: WG38925
 Units: ug/L

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
91-20-3	Naphthalene	L	7	1.0	0.2	0.2	0.1
91-57-6	2-Methylnaphthalene	J	0.6	1.0	0.2	0.2	0.07
90-12-0	1-Methylnaphthalene		0.5	1.0	0.2	0.2	0.1
208-96-8	Acenaphthylene	U	0.06	1.0	0.2	0.2	0.06
83-32-9	Acenaphthene		0.2	1.0	0.2	0.2	0.07
86-73-7	Fluorene	I	0.1	1.0	0.2	0.2	0.07
85-01-8	Phenanthrene	U	0.05	1.0	0.2	0.2	0.05
120-12-7	Anthracene	U	0.06	1.0	0.2	0.2	0.06
206-44-0	Fluoranthene	U	0.06	1.0	0.2	0.2	0.06
129-00-0	Pyrene	U	0.06	1.0	0.2	0.2	0.06
56-55-3	Benzo (a) anthracene	I	0.08	1.0	0.2	0.2	0.07
218-01-9	Chrysene	I	0.07	1.0	0.2	0.2	0.07
205-99-2	Benzo (b) fluoranthene	I	0.2	1.0	0.2	0.2	0.08
207-08-9	Benzo (k) fluoranthene	I	0.1	1.0	0.2	0.2	0.1
50-32-8	Benzo (a) pyrene	I	0.10	1.0	0.2	0.2	0.05
193-39-5	Indeno (1,2,3-cd) pyrene	U	0.09	1.0	0.2	0.2	0.09
191-24-2	Benzo (g,h,i) perylene	I	0.2	1.0	0.2	0.2	0.08
53-70-3	Dibenzo (a,h) anthracene	I	0.1	1.0	0.2	0.2	0.1
7297-45-2	2-Methylnaphthalene-d10		66%				
81103-79-9	Fluorene-d10		J 57%				
1718-52-1	Pyrene-d10		57%				

KATAHDIN ANALYTICAL SERVICES

Report of Analytical Results

Client: Tetra Tech NUS, Inc
 Project: CTO 056 NAS Pensacola
 PO No:
 Sample Date: 05/10/07
 Received Date: 05/11/07
 Extraction Date: 05/15/07
 Analysis Date: 21-MAY-2007 20:07
 Report Date: 05/24/2007
 Matrix: WATER
 % Solids: NA

Lab ID: SA2239-9DL
 Client ID: PEN21GW7501
 SDG: CTO056-6
 Extracted by: GN
 Extraction Method: SW846 3510
 Analyst: JCG
 Analysis Method: SW846 M8270C
 Lab Prep Batch: WG38925
 Units: ug/L

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
91-20-3	Naphthalene		8	5.0	0.2	0.9	0.6
91-57-6	2-Methylnaphthalene	J	1	5.0	0.2	0.9	0.3
90-12-0	1-Methylnaphthalene	U	0.7	5.0	0.2	0.9	0.7
208-96-8	Acenaphthylene	U	0.3	5.0	0.2	0.9	0.3
83-32-9	Acenaphthene	U	0.3	5.0	0.2	0.9	0.3
86-73-7	Fluorene	U	0.3	5.0	0.2	0.9	0.3
85-01-8	Phenanthrene	U	0.2	5.0	0.2	0.9	0.2
120-12-7	Anthracene	U	0.3	5.0	0.2	0.9	0.3
206-44-0	Fluoranthene	U	0.3	5.0	0.2	0.9	0.3
129-00-0	Pyrene	U	0.3	5.0	0.2	0.9	0.3
56-55-3	Benzo(a)anthracene	U	0.3	5.0	0.2	0.9	0.3
218-01-9	Chrysene	U	0.3	5.0	0.2	0.9	0.3
205-99-2	Benzo(b)fluoranthene	U	0.4	5.0	0.2	0.9	0.4
207-08-9	Benzo(k)fluoranthene	U	0.5	5.0	0.2	0.9	0.5
50-32-8	Benzo(a)pyrene	U	0.2	5.0	0.2	0.9	0.2
193-39-5	Indeno(1,2,3-cd)pyrene	U	0.5	5.0	0.2	0.9	0.5
191-24-2	Benzo(g,h,i)perylene	U	0.4	5.0	0.2	0.9	0.4
53-70-3	Dibenzo(a,h)anthracene	U	0.6	5.0	0.2	0.9	0.6
7297-45-2	2-Methylnaphthalene-d10		65%				
81103-79-9	Fluorene-d10		59%				
1718-52-1	Pyrene-d10		71%				

KATAHDIN ANALYTICAL SERVICES

Report of Analytical Results

Client: Tetra Tech NUS, Inc
 Project: CTO 056 NAS Pensacola
 PO No:
 Sample Date: 05/10/07
 Received Date: 05/11/07
 Extraction Date: 05/15/07
 Analysis Date: 18-MAY-2007 21:23
 Report Date: 06/04/2007
 Matrix: WATER
 % Solids: NA

Lab ID: SA2239-6
 Client ID: PEN21GW7601
 SDG: CTO056-6
 Extracted by: GN
 Extraction Method: SW846 3510
 Analyst: JCG
 Analysis Method: SW846 M8270C
 Lab Prep Batch: WG38925
 Units: ug/L

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
91-20-3	Naphthalene	L	9	1.0	0.2	0.2	0.1
91-57-6	2-Methylnaphthalene	J	3	1.0	0.2	0.2	0.07
90-12-0	1-Methylnaphthalene		2	1.0	0.2	0.2	0.1
208-96-8	Acenaphthylene	U	0.06	1.0	0.2	0.2	0.06
83-32-9	Acenaphthene	U	0.07	1.0	0.2	0.2	0.07
86-73-7	Fluorene	U	0.07	1.0	0.2	0.2	0.07
85-01-8	Phenanthrene	U	0.05	1.0	0.2	0.2	0.05
120-12-7	Anthracene	U	0.06	1.0	0.2	0.2	0.06
206-44-0	Fluoranthene	U	0.06	1.0	0.2	0.2	0.06
129-00-0	Pyrene	U	0.06	1.0	0.2	0.2	0.06
56-55-3	Benzo(a)anthracene	U	0.07	1.0	0.2	0.2	0.07
218-01-9	Chrysene	U	0.07	1.0	0.2	0.2	0.07
205-99-2	Benzo(b)fluoranthene	U	0.08	1.0	0.2	0.2	0.08
207-08-9	Benzo(k)fluoranthene	U	0.1	1.0	0.2	0.2	0.1
50-32-8	Benzo(a)pyrene	U	0.05	1.0	0.2	0.2	0.05
193-39-5	Indeno(1,2,3-cd)pyrene	U	0.09	1.0	0.2	0.2	0.09
191-24-2	Benzo(g,h,i)perylene	U	0.08	1.0	0.2	0.2	0.08
53-70-3	Dibenzo(a,h)anthracene	U	0.1	1.0	0.2	0.2	0.1
7297-45-2	2-Methylnaphthalene-d10		59%				
81103-79-9	Fluorene-d10		J 42%				
1718-52-1	Pyrene-d10		J 42%				

KATAHDIN ANALYTICAL SERVICES

Report of Analytical Results

Client: Tetra Tech NUS, Inc
 Project: CTO 056 NAS Pensacola
 PO No:
 Sample Date: 05/10/07
 Received Date: 05/11/07
 Extraction Date: 05/15/07
 Analysis Date: 22-MAY-2007 13:46
 Report Date: 05/24/2007
 Matrix: WATER
 % Solids: NA

Lab ID: SA2239-6DL
 Client ID: PEN21GW7601
 SDG: CTO056-6
 Extracted by: GN
 Extraction Method: SW846 3510
 Analyst: JCG
 Analysis Method: SW846 M8270C
 Lab Prep Batch: WG38925
 Units: ug/L

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
91-20-3	Naphthalene		9	3.0	0.2	0.6	0.3
91-57-6	2-Methylnaphthalene	J	4	3.0	0.2	0.6	0.2
90-12-0	1-Methylnaphthalene		2	3.0	0.2	0.6	0.4
208-96-8	Acenaphthylene	U	0.2	3.0	0.2	0.6	0.2
83-32-9	Acenaphthene	U	0.2	3.0	0.2	0.6	0.2
86-73-7	Fluorene	U	0.2	3.0	0.2	0.6	0.2
85-01-8	Phenanthrene	U	0.1	3.0	0.2	0.6	0.1
120-12-7	Anthracene	U	0.2	3.0	0.2	0.6	0.2
206-44-0	Fluoranthene	U	0.2	3.0	0.2	0.6	0.2
129-00-0	Pyrene	U	0.2	3.0	0.2	0.6	0.2
56-55-3	Benzo(a)anthracene	U	0.2	3.0	0.2	0.6	0.2
218-01-9	Chrysene	U	0.2	3.0	0.2	0.6	0.2
205-99-2	Benzo(b)fluoranthene	U	0.2	3.0	0.2	0.6	0.2
207-08-9	Benzo(k)fluoranthene	U	0.3	3.0	0.2	0.6	0.3
50-32-8	Benzo(a)pyrene	U	0.1	3.0	0.2	0.6	0.1
193-39-5	Indeno(1,2,3-cd)pyrene	U	0.3	3.0	0.2	0.6	0.3
191-24-2	Benzo(g,h,i)perylene	U	0.2	3.0	0.2	0.6	0.2
53-70-3	Dibenzo(a,h)anthracene	U	0.3	3.0	0.2	0.6	0.3
7297-45-2	2-Methylnaphthalene-d10		59%				
81103-79-9	Fluorene-d10		J 43%				
1718-52-1	Pyrene-d10		J 41%				

KATAHDIN ANALYTICAL SERVICES
Report of Analytical Results

Client: Tetra Tech NUS, Inc
Project: CTO 056 NAS Pensacola
PO No:
Sample Date: 05/10/07
Received Date: 05/11/07
Extraction Date: 05/15/07
Analysis Date: 22-MAY-2007 15:45
Report Date: 05/25/2007
Matrix: WATER
% Solids: NA

Lab ID: SA2239-4DL
Client ID: PEN21GW3802D
SDG: CTO056-6
Extracted by: GN
Extraction Method: SW846 3510
Analyst: TR
Analysis Method: SW846 M8015
Lab Prep Batch: WG38927
Units: ug/L

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
	Petroleum Range Organics		16000	10	500	5000	2900
	n-Triacontane-D62		D				
	O-Terphenyl		D				

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KATAHDIN ANALYTICAL SERVICES
Report of Analytical Results

Client: Tetra Tech NUS, Inc
Project: CTO 056 NAS Pensacola
PO No:
Sample Date: 05/10/07
Received Date: 05/11/07
Extraction Date: 05/15/07
Analysis Date: 22-MAY-2007 04:52
Report Date: 05/25/2007
Matrix: WATER
% Solids: NA

Lab ID: SA2239-3DL
Client ID: PEN21GW3802
SDG: CTO056-6
Extracted by: GN
Extraction Method: SW846 3510
Analyst: TR
Analysis Method: SW846 M8015
Lab Prep Batch: WG38927
Units: ug/L

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
	Petroleum Range Organics		18000	10	500	4800	2800
	n-Triacontane-D62		D				
	O-Terphenyl		D				

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KATAHDIN ANALYTICAL SERVICES
Report of Analytical Results

Client: Tetra Tech NUS, Inc
Project: CTO 056 NAS Pensacola
PO No:
Sample Date: 05/10/07
Received Date: 05/11/07
Extraction Date: 05/15/07
Analysis Date: 22-MAY-2007 03:36
Report Date: 05/25/2007
Matrix: WATER
% Solids: NA

Lab ID: SA2239-11
Client ID: PEN21GW46R01
SDG: CTO056-6
Extracted by: GN
Extraction Method: SW846 3510
Analyst: TR
Analysis Method: SW846 M8015
Lab Prep Batch: WG38927
Units: ug/L

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
	Petroleum Range Organics		2100	1.0	500	500	280
	n-Triacontane-D62		110%				
	O-Terphenyl		114%				

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KATAHDIN ANALYTICAL SERVICES
Report of Analytical Results

Client: Tetra Tech NUS, Inc
Project: CTO 056 NAS Pensacola
PO No:
Sample Date: 05/10/07
Received Date: 05/11/07
Extraction Date: 05/15/07
Analysis Date: 21-MAY-2007 23:50
Report Date: 05/25/2007
Matrix: WATER
% Solids: NA

Lab ID: SA2239-2RA2
Client ID: PEN21GW5101
SDG: CTO056-6
Extracted by: GN
Extraction Method: SW846 3510
Analyst: TR
Analysis Method: SW846 M8015
Lab Prep Batch: WG38927
Units: ug/L

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
	Petroleum Range Organics	I	290	1.0	500	500	290
	n-Triacontane-D62		92%				
	O-Terphenyl		94%				

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KATAHDIN ANALYTICAL SERVICES
Report of Analytical Results

Client: Tetra Tech NUS, Inc
Project: CTO 056 NAS Pensacola
PO No:
Sample Date: 05/10/07
Received Date: 05/11/07
Extraction Date: 05/15/07
Analysis Date: 18-MAY-2007 22:57
Report Date: 05/25/2007
Matrix: WATER
% Solids: NA

Lab ID: SA2239-1RA
Client ID: PEN21GW5202
SDG: CTO056-6
Extracted by: GN
Extraction Method: SW846 3510
Analyst: TR
Analysis Method: SW846 M8015
Lab Prep Batch: WG38927
Units: ug/L

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
	Petroleum Range Organics		3100	1.0	500	510	300
	n-Triacontane-D62		93%				
	O-Terphenyl		95%				

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KATAHDIN ANALYTICAL SERVICES
Report of Analytical Results

Client: Tetra Tech NUS, Inc
Project: CTO 056 NAS Pensacola
PO No:
Sample Date: 05/10/07
Received Date: 05/11/07
Extraction Date: 05/15/07
Analysis Date: 22-MAY-2007 02:21
Report Date: 05/25/2007
Matrix: WATER
% Solids: NA

Lab ID: SA2239-10RA
Client ID: PEN21GW7301
SDG: CTO056-6
Extracted by: GN
Extraction Method: SW846 3510
Analyst: TR
Analysis Method: SW846 M8015
Lab Prep Batch: WG38927
Units: ug/L

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
	Petroleum Range Organics		2300	1.0	500	500	300
	n-Triacontane-D62		146%				
	O-Terphenyl		J152%				

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KATAHDIN ANALYTICAL SERVICES
Report of Analytical Results

Client: Tetra Tech NUS, Inc
Project: CTO 056 NAS Pensacola
PO No:
Sample Date: 05/10/07
Received Date: 05/11/07
Extraction Date: 05/15/07
Analysis Date: 19-MAY-2007 02:42
Report Date: 05/25/2007
Matrix: WATER
% Solids: NA

Lab ID: SA2239-8
Client ID: PEN21GW7401
SDG: CTO056-6
Extracted by: GN
Extraction Method: SW846 3510
Analyst: TR
Analysis Method: SW846 M8015
Lab Prep Batch: WG38927
Units: ug/L

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
	Petroleum Range Organics		2300	1.0	500	500	290
	n-Triacontane-D62		88%				
	O-Terphenyl		92%				

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KATAHDIN ANALYTICAL SERVICES
Report of Analytical Results

Client: Tetra Tech NUS, Inc
Project: CTO 056 NAS Pensacola
PO No:
Sample Date: 05/10/07
Received Date: 05/11/07
Extraction Date: 05/15/07
Analysis Date: 22-MAY-2007 01:05
Report Date: 05/25/2007
Matrix: WATER
% Solids: NA

Lab ID: SA2239-9RA
Client ID: PEN21GW7501
SDG: CTO056-6
Extracted by: GN
Extraction Method: SW846 3510
Analyst: TR
Analysis Method: SW846 M8015
Lab Prep Batch: WG38927
Units: ug/L

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
	Petroleum Range Organics		1400	1.0	500	5.00	280
	n-Triacontane-D62		104%				
	O-Terphenyl		106%				

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KATAHDIN ANALYTICAL SERVICES
Report of Analytical Results

Client: Tetra Tech NUS, Inc
Project: CTO 056 NAS Pensacola
PO No:
Sample Date: 05/10/07
Received Date: 05/11/07
Extraction Date: 05/15/07
Analysis Date: 19-MAY-2007 01:27
Report Date: 05/25/2007
Matrix: WATER
% Solids: NA

Lab ID: SA2239-6
Client ID: PEN21GW7601
SDG: CTO056-6
Extracted by: GN
Extraction Method: SW846 3510
Analyst: TR
Analysis Method: SW846 M8015
Lab Prep Batch: WG38927
Units: ug/L

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
	Petroleum Range Organics		3700	1.0	500	500	300
	n-Triacontane-D62		90%				
	O-Terphenyl		94%				

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KB Labs, Inc.
6821 SW Archer Road
Gainesville, FL 32608
P: 352-367-0073

Preliminary Sample Results
07-35 Ttnus
NAS Pensacola, FL

5/1/07

KB LABS	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID
	Blank	DP01 10-12'	DP01 15-17'	DP02W 10-12'	DP02W 15-17'	Blank	DP03W 10-12'	DP03W 15-17'	DP04W 10-12'	DP04W 15-17'	DP05W 10-12'
Analysis Date	04/30/07	04/30/07	04/30/07	04/30/07	04/30/07	05/01/07	05/01/07	05/01/07	05/01/07	05/01/07	05/01/07
Matrix	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water
Dilution	1	1/10	1	1	1	1	1	1	1	1	1
MTBE	< 1.0	< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Benzene	< 1.0	< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	< 1.0	< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	1.2
Ethylbenzene	< 1.0	< 10	< 1.0	2.0	1.3	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	13.2
m&p-Xylene	< 1.0	< 10	< 1.0	2.0	1.4	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	9.7
o-Xylene	< 1.0	< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Naphthalene	< 1.0	< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

KB LABS	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID
	DP06W 10-12'	DP07W 10-12'									
Analysis Date	05/01/07	05/01/07									
Matrix	Water	Water									
Dilution	1	1									
MTBE	< 1.0										
Benzene	< 1.0										
Toluene	< 1.0										
Ethylbenzene	< 1.0										
m&p-Xylene	< 1.0										
o-Xylene	< 1.0										
Naphthalene	< 1.0										

Chemist: Enoch
Cell Phone: 352-538-0926

Units: ug/L for waters
mg/kg for soils

KB Labs, Inc.
6821 SW Archer Road
Gainesville, FL 32608
P: 352-367-0073

Preliminary Sample Results
07-35 Ttnus
NAS Pensacola, FL

5/1/07

KB LABS	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID
	Blank	DP01S 4-5'	DP01S 6-7'	DP02S 0-5'	DP02S 5-6'	DP02S 6-7'	Blank	DP03S 5.5-6.5'	DP03S 4.5-5.5'	DP05S 5-6'	DP06S 4-5'
Analysis Date	04/30/07	04/30/07	04/30/07	04/30/07	04/30/07	04/30/07	05/01/07	05/01/07	05/01/07	05/01/07	05/01/07
Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Dilution	1	1	1	1	1	1	1	1	1	1	1
MTBE	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Benzene	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Toluene	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Ethylbenzene	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
m&p-Xylene	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
o-Xylene	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Naphthalene	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010

KB LABS	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID
	DP07S 4.5-5.5'										
Analysis Date	05/01/07										
Matrix	Soil										
Dilution	1										
MTBE											
Benzene											
Toluene											
Ethylbenzene											
m&p-Xylene											
o-Xylene											
Naphthalene											

Chemist: Enoch
Cell Phone: 352-538-0926

Units: ug/L for waters
mg/kg for soils

KB Labs, Inc.
6821 SW Archer Road
Gainesville, FL 32608
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Preliminary Sample Results
07-35 Ttnus
NAS Pensacola, FL

5/1/07

KB LABS	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID
	Blank	DP01 10-12'	DP01 15-17'	DP02W 10-12'	DP02W 15-17'	Blank					
Analysis Date	04/30/07	04/30/07	04/30/07	04/30/07	04/30/07	05/01/07					
Matrix	Water	Water	Water	Water	Water	Water					
Dilution	1	1/10	1	1	1	1					
MTBE	< 1.0	< 10	< 1.0	< 1.0	< 1.0	< 1.0					
Benzene	< 1.0	< 10	< 1.0	< 1.0	< 1.0	< 1.0					
Toluene	< 1.0	< 10	< 1.0	< 1.0	< 1.0	< 1.0					
Ethylbenzene	< 1.0	< 10	< 1.0	2.0	1.3	< 1.0					
m&p-Xylene	< 1.0	< 10	< 1.0	2.0	1.4	< 1.0					
o-Xylene	< 1.0	< 10	< 1.0	< 1.0	< 1.0	< 1.0					
Naphthalene	< 1.0	< 10	< 1.0	< 1.0	< 1.0	< 1.0					

Chemist: Enoch
Cell Phone: 352-538-0926

Units: ug/L for waters
mg/kg for soils

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Preliminary Sample Results
07-35 Ttnus
NAS Pensacola, FL

5/1/07

KB LABS	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID
	Blank	DP01S 4-5'	DP01S 6-7'	DP02S 0-5'	DP02S 5-6'	DP02S 6-7'	Blank				
Analysis Date	04/30/07	04/30/07	04/30/07	04/30/07	04/30/07	04/30/07	05/01/07				
Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil				
Dilution	1	1	1	1	1	1	1				
MTBE	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010				
Benzene	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010				
Toluene	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010				
Ethylbenzene	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010				
m&p-Xylene	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010				
o-Xylene	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010				
Naphthalene	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010				

Chemist: Enoch
Cell Phone: 352-538-0926

Units: ug/L for waters
mg/kg for soils

KB LABS	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID
	Blank	DP01 10-12'	DP01 15-17'	DP02W 10-12'	DP02W 15-17'	Blank	DP03W 10-12'	DP03W 15-17'	DP04W 10-12'	DP04W 15-17'	DP05W 10-12'
Analysis Date	04/30/07	04/30/07	04/30/07	04/30/07	04/30/07	05/01/07	05/01/07	05/01/07	05/01/07	05/01/07	05/01/07
Matrix	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water
Dilution	1	1/10	1	1	1	1	1	1	1	1	1
MTBE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Benzene	< 1.0	< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	< 1.0	< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	1.2
Ethylbenzene	< 1.0	< 10	< 1.0	2.0	1.3	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	13.2
m&p-Xylene	< 1.0	< 10	< 1.0	2.0	1.4	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	9.7
o-Xylene	< 1.0	< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Naphthalene	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0

KB LABS	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID
	DP06W 10-12'	DP07W 10-12'	Blank	DP08 10-12'	DP09W 10-12'	DP10W 10-12'	DP11W 10-12'	DP12W 10-12'			
Analysis Date	05/01/07	05/01/07	05/02/07	05/02/07	05/02/07	05/02/07	05/02/07	05/02/07			
Matrix	Water	Water	Water	Water	Water	Water	Water	Water			
Dilution	1	1	1	1	1	1	1	1			
MTBE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0			
Benzene	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	1.0			
Toluene	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0			
Ethylbenzene	< 1.0	< 1.0	< 1.0	4.2	< 1.0	1.1	< 1.0	1.3			
m&p-Xylene	< 1.0	< 1.0	< 1.0	6.7	< 1.0	1.0	< 1.0	< 1.0			
o-Xylene	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0			
Naphthalene	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	6.4	< 5.0	14.5			

KB LABS	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID
	Blank	DP01 10-12'	DP01 15-17'	DP02W 10-12'	DP02W 15-17'	Blank	DP03W 10-12'	DP03W 15-17'	DP04W 10-12'	DP04W 15-17'	DP05W 10-12'
Analysis Date	04/30/07	04/30/07	04/30/07	04/30/07	04/30/07	05/01/07	05/01/07	05/01/07	05/01/07	05/01/07	05/01/07
Matrix	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water
Dilution	1	1/10	1	1	1	1	1	1	1	1	1
MTBE	< 1.0	< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Benzene	< 1.0	< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	< 1.0	< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	1.2
Ethylbenzene	< 1.0	< 10	< 1.0	2.0	1.3	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	13.2
m&p-Xylene	< 1.0	< 10	< 1.0	2.0	1.4	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	9.7
o-Xylene	< 1.0	< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Naphthalene	< 1.0	< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

KB LABS	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID
	DP06W 10-12'	DP07W 10-12'	Blank	DP08 10-12'	DP09 10-12'						
Analysis Date	05/01/07	05/01/07	05/02/07	05/02/07	05/02/07						
Matrix	Water	Water	Water	Water	Water						
Dilution	1	1	1	1	1						
MTBE	< 1.0	< 1.0	< 1.0	< 1.0							
Benzene	< 1.0	< 1.0	< 1.0	< 1.0							
Toluene	< 1.0	< 1.0	< 1.0	< 1.0							
Ethylbenzene	< 1.0	< 1.0	< 1.0	< 1.0							
m&p-Xylene	< 1.0	< 1.0	< 1.0	< 1.0							
o-Xylene	< 1.0	< 1.0	< 1.0	< 1.0							
Naphthalene	< 1.0	< 1.0	< 1.0	< 1.0							

KB LABS	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID
	Blank	DP01 10-12'	DP01 15-17'	DP02W 10-12'	DP02W 15-17'	Blank	DP03W 10-12'	DP03W 15-17'	DP04W 10-12'	DP04W 15-17'	DP05W 10-12'
Analysis Date	04/30/07	04/30/07	04/30/07	04/30/07	04/30/07	05/01/07	05/01/07	05/01/07	05/01/07	05/01/07	05/01/07
Matrix	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water
Dilution	1	1/10	1	1	1	1	1	1	1	1	1
MTBE	< 1.0	< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Benzene	< 1.0	< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	< 1.0	< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	1.2
Ethylbenzene	< 1.0	< 10	< 1.0	2.0	1.3	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	13.2
m&p-Xylene	< 1.0	< 10	< 1.0	2.0	1.4	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	9.7
o-Xylene	< 1.0	< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Naphthalene	< 1.0	< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

KB LABS	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID
	DP06W 10-12'	DP07W 10-12'	Blank	DP08 10-12'	DP09 10-12'						
Analysis Date	05/01/07	05/01/07	05/02/07	05/02/07	05/02/07						
Matrix	Water	Water	Water	Water	Water						
Dilution	1	1	1	1	1						
MTBE	< 1.0	< 1.0	< 1.0	< 1.0							
Benzene	< 1.0	< 1.0	< 1.0	< 1.0							
Toluene	< 1.0	< 1.0	< 1.0	< 1.0							
Ethylbenzene	< 1.0	< 1.0	< 1.0	4.2							
m&p-Xylene	< 1.0	< 1.0	< 1.0	6.7							
o-Xylene	< 1.0	< 1.0	< 1.0	< 1.0							
Naphthalene	< 1.0	< 1.0	< 1.0	< 1.0							

KB Labs, Inc.
6821 SW Archer Road
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P: 352-367-0073

Preliminary Sample Results
07-35 Ttnus
NAS Pensacola, FL

5/2/07

KB LABS	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID
	Blank	DP01S 4-5'	DP01S 6-7'	DP02S 0-5'	DP02S 5-6'	DP02S 6-7'	Blank	DP03S 5.5-6.5'	DP03S 4.5-5.5'	DP05S 5-6'	DP06S 4-5'
Analysis Date	04/30/07	04/30/07	04/30/07	04/30/07	04/30/07	04/30/07	05/01/07	05/01/07	05/01/07	05/01/07	05/01/07
Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Dilution	1	1	1	1	1	1	1	1	1	1	1
MTBE	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
Benzene	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Toluene	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Ethylbenzene	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
m&p-Xylene	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
o-Xylene	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Naphthalene	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050

KB LABS	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID
	DP07S 4.5-5.5'	Blank	DP08S 5-6'	DP09S 5-6.5'	DP10S 5-6.5'						
Analysis Date	05/01/07	05/02/07	05/02/07	05/02/07	05/02/07						
Matrix	Soil	Soil	Soil	Soil	Soil						
Dilution	1	1	1	1	1						
MTBE	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050						
Benzene	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010						
Toluene	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010						
Ethylbenzene	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010						
m&p-Xylene	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010						
o-Xylene	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010						
Naphthalene	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050						

Chemist: Enoch
Cell Phone: 352-538-0926

Units: ug/L for waters
mg/kg for soils

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Preliminary Sample Results
07-35 Ttnus
NAS Pensacola, FL

5/2/07

KB LABS	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID
	Blank	DP01 10-12'	DP01 15-17'	DP02W 10-12'	DP02W 15-17'	Blank	DP03W 10-12'	DP03W 15-17'	DP04W 10-12'	DP04W 15-17'	DP05W 10-12'
Analysis Date	04/30/07	04/30/07	04/30/07	04/30/07	04/30/07	05/01/07	05/01/07	05/01/07	05/01/07	05/01/07	05/01/07
Matrix	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water
Dilution	1	1/10	1	1	1	1	1	1	1	1	1
MTBE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Benzene	< 1.0	< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	< 1.0	< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	1.2
Ethylbenzene	< 1.0	< 10	< 1.0	2.0	1.3	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	13.2
m&p-Xylene	< 1.0	< 10	< 1.0	2.0	1.4	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	9.7
o-Xylene	< 1.0	< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Naphthalene	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0

KB LABS	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID
	DP06W 10-12'	DP07W 10-12'	Blank	DP08 10-12'	DP09W 10-12'	DP10W 10-12'	11 Clean				
Analysis Date	05/01/07	05/01/07	05/02/07	05/02/07	05/02/07	05/02/07					
Matrix	Water	Water	Water	Water	Water	Water					
Dilution	1	1	1	1	1	1					
MTBE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0					
Benzene	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0					
Toluene	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0					
Ethylbenzene	< 1.0	< 1.0	< 1.0	4.2	< 1.0	1.1		1.2			
m&p-Xylene	< 1.0	< 1.0	< 1.0	6.7	< 1.0	1.0					
o-Xylene	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0					
Naphthalene	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	6.4					

Chemist: Enoch
Cell Phone: 352-538-0926

Units: ug/L for waters
mg/kg for soils

KB LABS	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID
	Blank	DP01 10-12'	DP01 15-17'	DP02W 10-12'	DP02W 15-17'	Blank	DP03W 10-12'	DP03W 15-17'	DP04W 10-12'	DP04W 15-17'	DP05W 10-12'
Analysis Date	04/30/07	04/30/07	04/30/07	04/30/07	04/30/07	05/01/07	05/01/07	05/01/07	05/01/07	05/01/07	05/01/07
Matrix	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water
Dilution	1	1/10	1	1	1	1	1	1	1	1	1
MTBE	< 5.0	< 50	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Benzene	< 1.0	< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	< 1.0	< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	1.2
Ethylbenzene	< 1.0	< 10	< 1.0	2.0	1.3	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	13.2
m&p-Xylene	< 1.0	< 10	< 1.0	2.0	1.4	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	9.7
o-Xylene	< 1.0	< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Naphthalene	< 5.0	< 50	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0

KB LABS	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID
	DP06W 10-12'	DP07W 10-12'	Blank	DP08 10-12'	DP09W 10-12'	DP10W 10-12'	DP11W 10-12'	DP12W 10-12'	DP13W 10-12'	DP14W 10-12'	DP15W 10-12'
Analysis Date	05/01/07	05/01/07	05/02/07	05/02/07	05/02/07	05/02/07	05/02/07	05/02/07	05/02/07	05/02/07	05/02/07
Matrix	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water
Dilution	1	1	1	1	1	1	1	1	1	1/10	1
MTBE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 50	< 5.0
Benzene	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	1.0	< 1.0	< 10	< 1.0
Toluene	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	23	< 1.0
Ethylbenzene	< 1.0	< 1.0	< 1.0	4.2	< 1.0	1.1	< 1.0	1.3	< 1.0	310	< 1.0
m&p-Xylene	< 1.0	< 1.0	< 1.0	6.7	< 1.0	1.0	< 1.0	< 1.0	< 1.0	720	< 1.0
o-Xylene	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	36	< 1.0
Naphthalene	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	6.4	< 5.0	14.5	< 5.0	260	< 5.0

KB LABS	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID
	Blank	DP01S 4-5'	DP01S 6-7'	DP02S 0-5'	DP02S 5-6'	DP02S 6-7'	Blank	DP03S 5.5-6.5'	DP03S 4.5-5.5'	DP05S 5-6'	DP06S 4-5'
Analysis Date	04/30/07	04/30/07	04/30/07	04/30/07	04/30/07	04/30/07	05/01/07	05/01/07	05/01/07	05/01/07	05/01/07
Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Dilution	1	1	1	1	1	1	1	1	1	1	1
MTBE	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Benzene	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Toluene	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Ethylbenzene	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
m&p-Xylene	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
o-Xylene	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Naphthalene	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010

KB LABS	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID
	DP07S 4.5-5.5'	Blank	DP08S 5-6'	DP09S 5-6.5'							
Analysis Date	05/01/07	05/02/07	05/02/07	05/02/07							
Matrix	Soil	Soil	Soil	Soil							
Dilution	1	1	1	1							
MTBE	< 0.010	< 0.010	< 0.010								
Benzene	< 0.010	< 0.010	< 0.010								
Toluene	< 0.010	< 0.010	< 0.010								
Ethylbenzene	< 0.010	< 0.010	< 0.010								
m&p-Xylene	< 0.010	< 0.010	< 0.010								
o-Xylene	< 0.010	< 0.010	< 0.010								
Naphthalene	< 0.010	< 0.010	< 0.010								

KB LABS	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID
	DP16W 10-12'	Blank	DP17W 10-12'	DP18W 10-12'	DP18W 15-17'	DP19W 10-12'	DP20W 10-12'				
Analysis Date	05/02/07	05/03/07	05/03/07	05/03/07	05/03/07	05/03/07	05/03/07				
Matrix	Water	Water	Water	Water	Water	Water	Water				
Dilution	1	1	1	1	1	1	1				
MTBE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0				
Benzene	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0				
Toluene	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0				
Ethylbenzene	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0				
m&p-Xylene	< 1.0	< 1.0	1.2	1.4	1.2	4.7	2.8				
o-Xylene	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0				
Naphthalene	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0				

KB LABS	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID
Analysis Date											
Matrix											
Dilution											
MTBE											
Benzene											
Toluene											
Ethylbenzene											
m&p-Xylene											
o-Xylene											
Naphthalene											

KB LABS	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID
	Blank	DP01S 4-5'	DP01S 6-7'	DP02S 0-5'	DP02S 5-6'	DP02S 6-7'	Blank	DP03S 5.5-6.5'	DP03S 4.5-5.5'	DP05S 5-6'	DP06S 4-5'
Analysis Date	04/30/07	04/30/07	04/30/07	04/30/07	04/30/07	04/30/07	05/01/07	05/01/07	05/01/07	05/01/07	05/01/07
Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Dilution	1	1	1	1	1	1	1	1	1	1	1
MTBE	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
Benzene	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Toluene	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Ethylbenzene	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
m&p-Xylene	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
o-Xylene	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Naphthalene	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050

KB LABS	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID
	DP07S 4.5-5.5'	Blank	DP08S 5-6'	DP09S 5-6.5'	DP10S 5-6.5'	DP11S 5-6'	Blank	DP21S 6.5-10'	DP22S 5.5-6'	DP22S 6-7.5'	DP23S 5-6'
Analysis Date	05/01/07	05/02/07	05/02/07	05/02/07	05/02/07	05/02/07	05/03/07	05/03/07	05/03/07	05/03/07	05/03/07
Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Dilution	1	1	1	1	1	1	1	1, 1/20	1/20	1/20	1
MTBE	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 1.0	< 1.0	< 0.050
Benzene	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.20	< 0.20	< 0.010
Toluene	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.20	< 0.20	< 0.010
Ethylbenzene	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.20	< 0.20	< 0.010
m&p-Xylene	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.20	< 0.20	< 0.010
o-Xylene	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.20	< 0.20	< 0.010
Naphthalene	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	10	1.4	2.2	0.070

KB LABS	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID
	DP16W 10-12'	Blank	DP17W 10-12'	DP18W 10-12'	DP18W 15-17'	DP19W 10-12'	DP20W 10-12'	DP20W 15-17'	DP21W 13-15'	DP22W 13-15'	DP23W 14-18'
Analysis Date	05/02/07	05/03/07	05/03/07	05/03/07	05/03/07	05/03/07	05/03/07	05/03/07	05/03/07	05/03/07	05/03/07
Matrix	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water
Dilution	1	1	1	1	1	1	1	1	1	1	1
MTBE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Benzene	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
m&p-Xylene	< 1.0	< 1.0	1.2	1.4	1.2	4.7	2.8	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Naphthalene	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	9.4	7.6	< 5.0

KB LABS	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID
	Blank	DP24W 15-17'	DP25W 14-18'	DP26W 13-15'							
Analysis Date	05/04/07	05/04/07	05/04/07	05/04/07							
Matrix	Water	Water	Water	Water							
Dilution	1	1	1	1							
MTBE	< 5.0	< 5.0	< 5.0	< 5.0							
Benzene	< 1.0	< 1.0	< 1.0	< 1.0							
Toluene	< 1.0	< 1.0	< 1.0	< 1.0							
Ethylbenzene	< 1.0	< 1.0	< 1.0	< 1.0							
m&p-Xylene	< 1.0	< 1.0	< 1.0	< 1.0							
o-Xylene	< 1.0	< 1.0	< 1.0	< 1.0							
Naphthalene	< 5.0	< 5.0	14.9	13.3							

KB LABS	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID
	Blank	DP24S 5-6'	DP25S 4.5-6'	DP25S 6-7.5'	DP26S 4.5-6'	DP26S 6.5-7.5'					
Analysis Date	05/04/07	05/04/07	05/04/07	05/04/07	05/04/07	05/04/07					
Matrix	Soil	Soil	Soil	Soil	Soil	Soil					
Dilution	1	1	1/40	1/40	1	1/100					
MTBE	< 0.050	< 0.050	< 2.0	< 2.0	< 0.050	< 5.0					
Benzene	< 0.010	< 0.010	< 0.40	< 0.40	< 0.010	< 1.0					
Toluene	< 0.010	< 0.010	< 0.40	< 0.40	< 0.010	< 1.0					
Ethylbenzene	< 0.010	< 0.010	< 0.40	< 0.40	< 0.010	< 1.0					
m&p-Xylene	< 0.010	< 0.010	< 0.40	< 0.40	< 0.010	< 1.0					
o-Xylene	< 0.010	< 0.010	< 0.40	< 0.40	< 0.010	< 1.0					
Naphthalene	< 0.050	< 0.050	6.3	10	< 0.050	90					

KB LABS	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID
Analysis Date											
Matrix											
Dilution											
MTBE											
Benzene											
Toluene											
Ethylbenzene											
m&p-Xylene											
o-Xylene											
Naphthalene											

KB LABS	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID
	DP16W 10-12'	Blank	DP17W 10-12'	DP18W 10-12'	DP18W 15-17'	DP19W 10-12'	DP20W 10-12'	DP20W 15-17'	DP21W 13-15'	DP22W 13-15'	DP23W 14-18'
Analysis Date	05/02/07	05/03/07	05/03/07	05/03/07	05/03/07	05/03/07	05/03/07	05/03/07	05/03/07	05/03/07	05/03/07
Matrix	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water
Dilution	1	1	1	1	1	1	1	1	1	1	1
MTBE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Benzene	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
m&p-Xylene	< 1.0	< 1.0	1.2	1.4	1.2	4.7	2.8	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Naphthalene	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	9.4	7.6	< 5.0

KB LABS	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID
Analysis Date											
Matrix											
Dilution											
MTBE											
Benzene											
Toluene											
Ethylbenzene											
m&p-Xylene											
o-Xylene											
Naphthalene											

KB LABS	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID
	Blank	DP01 10-12'	DP01 15-17'	DP02W 10-12'	DP02W 15-17'	Blank	DP03W 10-12'	DP03W 15-17'	DP04W 10-12'	DP04W 15-17'	DP05W 10-12'
Analysis Date	04/30/07	04/30/07	04/30/07	04/30/07	04/30/07	05/01/07	05/01/07	05/01/07	05/01/07	05/01/07	05/01/07
Matrix	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water
Dilution	1	1/10	1	1	1	1	1	1	1	1	1
MTBE	< 5.0	< 50	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Benzene	< 1.0	< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	< 1.0	< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	1.2
Ethylbenzene	< 1.0	< 10	< 1.0	2.0	1.3	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	13.2
m&p-Xylene	< 1.0	< 10	< 1.0	2.0	1.4	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	9.7
o-Xylene	< 1.0	< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Naphthalene	< 5.0	< 50	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0

KB LABS	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID
	DP06W 10-12'	DP07W 10-12'	Blank	DP08 10-12'	DP09W 10-12'	DP10W 10-12'	DP11W 10-12'	DP12W 10-12'	DP13W 10-12'	DP14W 10-12'	DP15W 10-12'
Analysis Date	05/01/07	05/01/07	05/02/07	05/02/07	05/02/07	05/02/07	05/02/07	05/02/07	05/02/07	05/02/07	05/02/07
Matrix	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water
Dilution	1	1	1	1	1	1	1	1	1	1/10	1
MTBE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 50	< 5.0
Benzene	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	1.0	< 1.0	< 10	< 1.0
Toluene	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	23	< 1.0
Ethylbenzene	< 1.0	< 1.0	< 1.0	4.2	< 1.0	1.1	< 1.0	1.3	< 1.0	310	< 1.0
m&p-Xylene	< 1.0	< 1.0	< 1.0	6.7	< 1.0	1.0	< 1.0	< 1.0	< 1.0	720	< 1.0
o-Xylene	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	36	< 1.0
Naphthalene	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	6.4	< 5.0	14.5	< 5.0	260	< 5.0

KB LABS	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID
	DP16W 10-12'	Blank	DP17W 10-12'	DP18W 10-12'	DP18W 15-17'	DP19W 10-12'	DP20W 10-12'	DP20W 15-17'	DP21W 13-15'	DP22W 13-15'	DP23W 14-18'
Analysis Date	05/02/07	05/03/07	05/03/07	05/03/07	05/03/07	05/03/07	05/03/07	05/03/07	05/03/07	05/03/07	05/03/07
Matrix	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water
Dilution	1	1	1	1	1	1	1	1	1	1	1
MTBE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Benzene	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
m&p-Xylene	< 1.0	< 1.0	1.2	1.4	1.2	4.7	2.8	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Naphthalene	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	9.4	7.6	< 5.0

KB LABS	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID
	Blank	DP24W 15-17'	DP25W 14-18'	DP26W 13-15'	Blank	DP33W 13-15'	DP34W 13-15'	DP35W 13-15'	DP36W 13-15'	DP37W 13-15'	
Analysis Date	05/04/07	05/04/07	05/04/07	05/04/07	05/05/07	05/05/07	05/05/07	05/05/07	05/05/07	05/05/07	
Matrix	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	
Dilution	1	1	1	1	1	1	1	1	1	1	
MTBE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	
Benzene	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
Toluene	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
Ethylbenzene	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
m&p-Xylene	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
o-Xylene	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
Naphthalene	< 5.0	< 5.0	14.9	13.3	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	

KB LABS	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID
	Blank	DP01 10-12'	DP01 15-17'	DP02W 10-12'	DP02W 15-17'	Blank	DP03W 10-12'	DP03W 15-17'	DP04W 10-12'	DP04W 15-17'	DP05W 10-12'
Analysis Date	04/30/07	04/30/07	04/30/07	04/30/07	04/30/07	05/01/07	05/01/07	05/01/07	05/01/07	05/01/07	05/01/07
Matrix	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water
Dilution	1	1/10	1	1	1	1	1	1	1	1	1
MTBE	< 5.0	< 50	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Benzene	< 1.0	< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	< 1.0	< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	1.2
Ethylbenzene	< 1.0	< 10	< 1.0	2.0	1.3	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	13.2
m&p-Xylene	< 1.0	< 10	< 1.0	2.0	1.4	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	9.7
o-Xylene	< 1.0	< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Naphthalene	< 5.0	< 50	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0

KB LABS	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID
	DP06W 10-12'	DP07W 10-12'	Blank	DP08 10-12'	DP09W 10-12'	DP10W 10-12'	DP11W 10-12'	DP12W 10-12'	DP13W 10-12'	DP14W 10-12'	DP15W 10-12'
Analysis Date	05/01/07	05/01/07	05/02/07	05/02/07	05/02/07	05/02/07	05/02/07	05/02/07	05/02/07	05/02/07	05/02/07
Matrix	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water
Dilution	1	1	1	1	1	1	1	1	1	1/10	1
MTBE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 50	< 5.0
Benzene	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	1.0	< 1.0	< 10	< 1.0
Toluene	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	23	< 1.0
Ethylbenzene	< 1.0	< 1.0	< 1.0	4.2	< 1.0	1.1	< 1.0	1.3	< 1.0	310	< 1.0
m&p-Xylene	< 1.0	< 1.0	< 1.0	6.7	< 1.0	1.0	< 1.0	< 1.0	< 1.0	720	< 1.0
o-Xylene	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	36	< 1.0
Naphthalene	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	6.4	< 5.0	14.5	< 5.0	260	< 5.0

KB LABS	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID
	Blank	DP01S 4-5'	DP01S 6-7'	DP02S 0-5'	DP02S 5-6'	DP02S 6-7'	Blank	DP03S 5.5-6.5'	DP03S 4.5-5.5'	DP05S 5-6'	DP06S 4-5'
Analysis Date	04/30/07	04/30/07	04/30/07	04/30/07	04/30/07	04/30/07	05/01/07	05/01/07	05/01/07	05/01/07	05/01/07
Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Dilution	1	1	1	1	1	1	1	1	1	1	1
MTBE	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
Benzene	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Toluene	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Ethylbenzene	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
m&p-Xylene	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
o-Xylene	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Naphthalene	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050

KB LABS	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID
	DP07S 4.5-5.5'	Blank	DP08S 5-6'	DP09S 5-6.5'	DP10S 5-6.5'	DP11S 5-6'	Blank	DP21S 6.5-10'	DP22S 5.5-6'	DP22S 6-7.5'	DP23S 5-6'
Analysis Date	05/01/07	05/02/07	05/02/07	05/02/07	05/02/07	05/02/07	05/03/07	05/03/07	05/03/07	05/03/07	05/03/07
Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Dilution	1	1	1	1	1	1	1	1, 1/20	1/20	1/20	1
MTBE	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 1.0	< 1.0	< 0.050
Benzene	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.20	< 0.20	< 0.010
Toluene	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.20	< 0.20	< 0.010
Ethylbenzene	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.20	< 0.20	< 0.010
m&p-Xylene	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.20	< 0.20	< 0.010
o-Xylene	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.20	< 0.20	< 0.010
Naphthalene	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	10	1.4	2.2	0.070

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Preliminary Sample Results
07-35 Ttnus
NAS Pensacola, FL

5/6/07

KB LABS	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID
	Blank	DP24S 5-6'	DP25S 4.5-6'	DP25S 6-7.5'	DP26S 4.5-6'	DP26S 6.5-7.5'	Blank	DP33S 5-6'	DP34S 4.5-5.5'	DP34S 5.5-6.5'	DP35S 4.5-6.5'
Analysis Date	05/04/07	05/04/07	05/04/07	05/04/07	05/04/07	05/04/07	05/05/07	05/05/07	05/05/07	05/05/07	05/05/07
Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Dilution	1	1	1/40	1/40	1	1/100	1	1	1	1	1
MTBE	< 0.050	< 0.050	< 2.0	< 2.0	< 0.050	< 5.0	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
Benzene	< 0.010	< 0.010	< 0.40	< 0.40	< 0.010	< 1.0	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Toluene	< 0.010	< 0.010	< 0.40	< 0.40	< 0.010	< 1.0	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Ethylbenzene	< 0.010	< 0.010	< 0.40	< 0.40	< 0.010	< 1.0	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
m&p-Xylene	< 0.010	< 0.010	< 0.40	< 0.40	< 0.010	< 1.0	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
o-Xylene	< 0.010	< 0.010	< 0.40	< 0.40	< 0.010	< 1.0	< 0.010	< 0.010	< 0.010	0.015	< 0.010
Naphthalene	< 0.050	< 0.050	6.3	10	< 0.050	90	< 0.050	< 0.050	0.13	0.16	0.12

KB LABS	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID
	DP36S 6-7'	DP36S 7-8.5'	DP37S 6-7'	Blank	DP14S 4-5'D	NASP 21 DP05S 5-6'D	DP26S 6-8'D	DP25S 4.5-6'D	NASP Site 21 DP35S 5-6'D		
Analysis Date	05/05/07	05/05/07	05/05/07	05/06/07	05/06/07	05/06/07	05/06/07	05/06/07	05/06/07		
Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil		
Dilution	1	1	1	1	1	1	1/200	1	1		
MTBE	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 10	< 0.050	< 0.050		
Benzene	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 2.0	< 0.010	< 0.010		
Toluene	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 2.0	< 0.010	< 0.010		
Ethylbenzene	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 2.0	< 0.010	< 0.010		
m&p-Xylene	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 2.0	< 0.010	< 0.010		
o-Xylene	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 2.0	< 0.010	< 0.010		
Naphthalene	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	22	0.070	< 0.050		

Chemist: Enoch
Cell Phone: 352-538-0926

Units: ug/L for waters
mg/kg for soils

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P: 352-367-0073

Preliminary Sample Results
07-35 Ttnus
NAS Pensacola, FL

5/6/07

KB LABS	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID
	DP16W 10-12'	Blank	DP17W 10-12'	DP18W 10-12'	DP18W 15-17'	DP19W 10-12'	DP20W 10-12'	DP20W 15-17'	DP21W 13-15'	DP22W 13-15'	DP23W 14-18'
Analysis Date	05/02/07	05/03/07	05/03/07	05/03/07	05/03/07	05/03/07	05/03/07	05/03/07	05/03/07	05/03/07	05/03/07
Matrix	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water
Dilution	1	1	1	1	1	1	1	1	1	1	1
MTBE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Benzene	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
m&p-Xylene	< 1.0	< 1.0	1.2	1.4	1.2	4.7	2.8	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Naphthalene	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	9.4	7.6	< 5.0

KB LABS	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID
	Blank	DP24W 15-17'	DP25W 14-18'	DP26W 13-15'	Blank	DP33W 13-15'	DP34W 13-15'	DP35W 13-15'	DP36W 13-15'	DP37W 13-15'	DP38W 18-22'
Analysis Date	05/04/07	05/04/07	05/04/07	05/04/07	05/05/07	05/05/07	05/05/07	05/05/07	05/05/07	05/05/07	05/05/07
Matrix	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water
Dilution	1	1	1	1	1	1	1	1	1	1	1
MTBE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Benzene	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
m&p-Xylene	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Naphthalene	< 5.0	< 5.0	14.9	13.3	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0

Chemist: Enoch
Cell Phone: 352-538-0926

Units: ug/L for waters
mg/kg for soils

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07-35 Ttnus
NAS Pensacola, FL

5/6/07

KB LABS	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID
	DP38W 26-30'	Blank	DP14W 15-19'	DP14W 26-30'	DP39W 10-14'						
Analysis Date	05/05/07	05/06/07	05/06/07	05/06/07	05/06/07						
Matrix	Water	Water	Water	Water	Water						
Dilution	1	1	1	1	1						
MTBE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0						
Benzene	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0						
Toluene	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0						
Ethylbenzene	< 1.0	< 1.0	1.6	< 1.0	34.4						
m&p-Xylene	< 1.0	< 1.0	1.7	8.2	55.6						
o-Xylene	< 1.0	< 1.0	< 1.0	< 1.0	1.7						
Naphthalene	< 5.0	< 5.0	< 5.0	< 5.0	21.8						

KB LABS	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID	Sample ID
Analysis Date											
Matrix											
Dilution											
MTBE											
Benzene											
Toluene											
Ethylbenzene											
m&p-Xylene											
o-Xylene											
Naphthalene											

Chemist: Enoch
Cell Phone: 352-538-0926

Units: ug/L for waters
mg/kg for soils



TO: MR. G. WALKER **DATE:** JUNE 25, 2007
FROM: EDWARD SEDLMYER **COPIES:** DV FILE
SUBJECT: ORGANIC DATA VALIDATION- VOA/PAH/TPH
 CTO 0056, NAS PENSACOLA
 SDG CTO056-3

SAMPLES: 5/Soil

 DP05S 5-6D DP14S 4-5D DP25S 4.5-6D
 DP26S 6-8D DP33S 5-6D

OVERVIEW

The sample set for CTO 0056, NAS Pensacola, SDG CTO056-3 consists of five (5) soil environmental samples. All samples were analyzed for BTEX volatile organic compounds (VOCs), polynuclear aromatic hydrocarbons (PAHs), and total petroleum hydrocarbon (TPH).

The samples were collected by TetraTech NUS on May 6, 2007 and analyzed by Katahdin Analytical Services, Inc. All analyses were conducted in accordance with SW-846 Method 8260B, 8270SIM, and FDEP FL-PRO (TPH) analytical and reporting protocols. The data contained in this SDG were validated with regard to the following parameters:

- * • Data completeness
- * • Holding times
- * • Initial/continuing calibrations
- Laboratory method blank results
- * • Detection Limits

The symbol (*) indicates that quality control criteria were met for this parameter. Problems affecting data quality are discussed below; documentation supporting these findings is presented in Appendix C. Qualified Analytical results are presented in Appendix A.

Volatiles

No qualification of the data was necessary.

PAHs

Sample DP05S 5-6D had a high internal standard in the initial run. The sample was re-analyzed with similar internal standard recoveries. The initial analysis is considered the valid run and was used for validation.

Sample DP25S 4.5-6D required a 2X dilution for a 2-methylnaphthalene concentration greater than the linear calibration range of the instrument. The 2-methylnaphthalene result is reported from the 2X dilution. All other results are reported from the undiluted analysis.

Sample DP26S 6-8D required a 20X dilution for several compounds with concentrations greater than the linear range of the instrument. A 100X dilution was also required because of concentrations greater than the

linear range of the instrument for 1-methylnaphthalene and 2-methylnaphthalene. An undiluted analysis was not reported by the laboratory due to the difficult matrix of the sample and the high concentrations of PAHs. The compounds 1-methylnaphthalene and 2-methylnaphthalene are reported from the 100X dilution and all other compounds are reported from the 20X dilution.

TPH

TPH was detected in the method blanks at the following maximum concentration:

<u>Compound</u>	<u>Maximum Concentration</u>	<u>Blank Action Level</u>
TPH	10 mg/kg	50 mg/kg

An action level of 5X the maximum contaminant concentration was established to evaluate laboratory contamination for TPH. Dilution factors and sample aliquots were taken into consideration during the application of all action levels. The affected positive results were qualified (U) as a result of blank contamination for TPH.

Additional Comments:

Positive results less than the reporting limit (RL) were qualified as estimated "J", due to uncertainty near the detection limit.

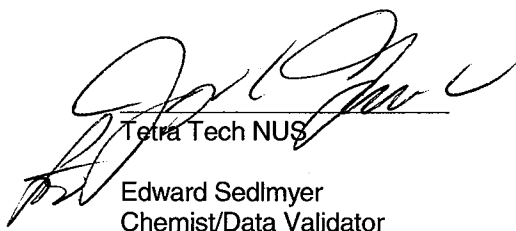
EXECUTIVE SUMMARY

Laboratory Performance Issues: Three samples were qualified due to TPH blank contamination.


Other Factors Affecting Data Quality: None.

The data for these analyses were reviewed with reference to the EPA Functional Guidelines for Organic Data Validation (10/99) and the Department of Defense (DoD) document entitled "Quality Systems Manual (QSM) for Environmental Laboratories" (January 2006). The text of this report has been formulated to address only those problem areas affecting data quality.

"I attest that the data referenced herein were validated according to the agreed upon validation criteria as specified in the DoD QSM for Environmental Laboratories.



Tetra Tech NUS
Edward Sedlmyer
Chemist/Data Validator



Tetra Tech NUS
Joseph A. Samchuck
Data Validation Quality Assurance Officer

Attachments:

Appendix A – Qualified Analytical Results
Appendix B – Results as Reported by the Laboratory
Appendix C – Support Documentation

APPENDIX A

QUALIFIED ANALYTICAL RESULTS

Data Validation Qualifier Codes:

- A = Lab Blank Contamination
- B = Field Blank Contamination
- C = Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
- C01 = GC/MS Tuning Noncompliance
- D = MS/MSD Recovery Noncompliance
- E = LCS/LCSD Recovery Noncompliance
- F = Lab Duplicate Imprecision
- G = Field Duplicate Imprecision
- H = Holding Time Exceedance
- I = ICP Serial Dilution Noncompliance
- J = GFAA PDS - GFAA MSA's $r < 0.995$ / ICP PDS Recovery Noncompliance
- K = ICP Interference - includes ICS % R Noncompliance
- L = Instrument Calibration Range Exceedance
- M = Sample Preservation Noncompliance
- N = Internal Standard Noncompliance
- N01 = Internal Standard Recovery Noncompliance Dioxins
- N02 = Recovery Standard Noncompliance Dioxins
- N03 = Clean-up Standard Noncompliance Dioxins
- O = Poor Instrument Performance (e.g. base-line drifting)
- P = Uncertainty near detection limit ($< 2 \times$ IDL for inorganics and $< CRQL$ for organics)
- Q = Other problems (can encompass a number of issues; e.g. chromatography, interferences, etc.)
- R = Surrogates Recovery Noncompliance
- S = Pesticide/PCB Resolution
- T = % Breakdown Noncompliance for DDT and Endrin
- U = % Difference between columns/detectors $> 25\%$ for positive results determined via GC/HPLC
- V = Non-linear calibrations; correlation coefficient $r < 0.995$
- W = EMPC result
- X = Signal to noise response drop
- Y = Percent solids $< 30\%$
- Z = Uncertainty at 2 sigma deviation is greater than sample activity

PROJ_NO: 00583

SDG: CTO056-3 MEDIA: SOIL DATA FRACTION: OV

nsample DP05S 5-6DRA
samp_date 5/6/2007
lab_id SA2171-4RA
qc_type NM
units UG/KG
Pct_Solids 94.8
DUP_OF:

nsample
samp_date
lab_id
qc_type
units
Pct_Solids
DUP_OF:

DP14S 4-5D
5/6/2007
SA2171-3
NM
UG/KG
75.9

nsample
samp_date
lab_id
qc_type
units
Pct_Solids
DUP_OF:

DP25S 4.5-6D
5/6/2007
SA2171-1
NM
UG/KG
77.1

Parameter	Result	Lab Qual	Val Qual	Qual Code
BENZENE	6			
ETHYLBENZENE	2	I	J	P
M+P-XYLENES	4	U	U	
O-XYLENE	2	U	U	
TOLUENE	10			
TOTAL XYLENES	5	U	U	

Parameter	Result	Lab Qual	Val Qual	Qual Code
BENZENE	1	U	U	
ETHYLBENZENE	1	U	U	
M+P-XYLENES	5	U	U	
O-XYLENE	2	U	U	
TOLUENE	2	U	U	
TOTAL XYLENES	7	U	U	

Parameter	Result	Lab Qual	Val Qual	Qual Code
BENZENE	1	U	U	
ETHYLBENZENE	0.9	U	U	
M+P-XYLENES	4	U	U	
O-XYLENE	2	U	U	
TOLUENE	2	U	U	
TOTAL XYLENES	6	U	U	

PROJ_NO: 00583

SDG: CTO056-3 MEDIA: SOIL DATA FRACTION: OV

nsample	DP26S 6-8DRA	nsample	DP33S 5-6D
samp_date	5/6/2007	samp_date	5/6/2007
lab_id	SA2171-5RA	lab_id	SA2171-2
qc_type	NM	qc_type	NM
units	UG/KG	units	UG/KG
Pct_Solids	93.9	Pct_Solids	84.5
DUP_OF:		DUP_OF:	

Parameter	Result	Lab Qual	Val Qual	Qual Code
BENZENE	1	U	U	
ETHYLBENZENE	21			
M+P-XYLENES	60			
O-XYLENE	2	U	U	
TOLUENE	2	U	U	
TOTAL XYLENES	60			

Parameter	Result	Lab Qual	Val Qual	Qual Code
BENZENE	1	U	U	
ETHYLBENZENE	0.9	U	U	
M+P-XYLENES	4	U	U	
O-XYLENE	2	U	U	
TOLUENE	2	U	U	
TOTAL XYLENES	6	U	U	

PROJ_NO: 00583

SDG: CTO056-3 MEDIA: SOIL DATA FRACTION: PAH

nsample DP05S 5-6D
samp_date 5/6/2007
lab_id SA2140-2
qc_type NM
units UG/KG
Pct_Solids 94.8
DUP_OF:

nsample
samp_date
lab_id
qc_type
units
Pct_Solids
DUP_OF:

DP14S 4-5DRA
5/6/2007
SA2140-1RA
NM
UG/KG
75.9

nsample DP25S 4.5-6D
samp_date 5/6/2007
lab_id SA2140-4
qc_type NM
units UG/KG
Pct_Solids 77.1
DUP_OF:

Parameter	Result	Lab Qual	Val Qual	Qual Code
1-METHYLNAPHTHALENE	10	U	U	
2-METHYLNAPHTHALENE	8	U	U	
ACENAPHTHENE	6	U	U	
ACENAPHTHYLENE	23			
ANTHRACENE	4	I	J	P
BENZO(A)ANTHRACENE	36			
BENZO(A)PYRENE	48			
BENZO(B)FLUORANTHENE	57			
BENZO(G,H,I)PERYLENE	44			
BENZO(K)FLUORANTHENE	24			
CHRYSENE	37			
DIBENZO(A,H)ANTHRACENE	7	I	J	P
FLUORANTHENE	24			
FLUORENE	3	U	U	
INDENO(1,2,3-CD)PYRENE	88			
NAPHTHALENE	3	U	U	
PHENANTHRENE	5	I	J	P
PYRENE	20	I	J	P

Parameter	Result	Lab Qual	Val Qual	Qual Code
1-METHYLNAPHTHALENE	12	U	U	
2-METHYLNAPHTHALENE	10	U	U	
ACENAPHTHENE	8	U	U	
ACENAPHTHYLENE	3	I	J	P
ANTHRACENE	5	U	U	
BENZO(A)ANTHRACENE	4	U	U	
BENZO(A)PYRENE	6	I	J	P
BENZO(B)FLUORANTHENE	4	U	U	
BENZO(G,H,I)PERYLENE	4	U	U	
BENZO(K)FLUORANTHENE	4	U	U	
CHRYSENE	4	U	U	
DIBENZO(A,H)ANTHRACENE	5	U	U	
FLUORANTHENE	5	U	U	
FLUORENE	4	U	U	
INDENO(1,2,3-CD)PYRENE	6	U	U	
NAPHTHALENE	3	U	U	
PHENANTHRENE	3	U	U	
PYRENE	4	U	U	

Parameter	Result	Lab Qual	Val Qual	Qual Code
1-METHYLNAPHTHALENE	180			
ACENAPHTHENE	12	I	J	P
ACENAPHTHYLENE	8	I	J	P
ANTHRACENE	5	U	U	
BENZO(A)ANTHRACENE	19	I	J	P
BENZO(A)PYRENE	22	I	J	P
BENZO(B)FLUORANTHENE	26			
BENZO(G,H,I)PERYLENE	11	I	J	P
BENZO(K)FLUORANTHENE	14	I	J	P
CHRYSENE	20	I	J	P
DIBENZO(A,H)ANTHRACENE	5	U	U	
FLUORANTHENE	21	I	J	P
FLUORENE	6	I	J	P
INDENO(1,2,3-CD)PYRENE	22	I	J	P
NAPHTHALENE	33			
PHENANTHRENE	4	I	J	P
PYRENE	16	I	J	P

PROJ_NO: 00583

SDG: CTO056-3 MEDIA: SOIL DATA FRACTION: PAH

nsample DP25S 4.5-6DDL
samp_date 5/6/2007
lab_id SA2140-4DL
qc_type NM
units UG/KG
Pct_Solids 77.1
DUP_OF:

nsample DP26S 6-8DDL
samp_date 5/6/2007
lab_id SA2140-3DL
qc_type NM
units UG/KG
Pct_Solids 93.9
DUP_OF:

nsample DP26S 6-8DDL2
samp_date 5/6/2007
lab_id SA2140-3DL2
qc_type NM
units UG/KG
Pct_Solids 93.9
DUP_OF:

Parameter	Result	Lab Qual	Val Qual	Qual Code
2-METHYLNAPHTHALENE	250			

Parameter	Result	Lab Qual	Val Qual	Qual Code
ACENAPHTHENE	360	I	J	P
ACENAPHTHYLENE	47	U	U	
ANTHRACENE	77	U	U	
BENZO(A)ANTHRACENE	64	U	U	
BENZO(A)PYRENE	64	U	U	
BENZO(B)FLUORANTHENE	79	I	J	P
BENZO(G,H,I)PERYLENE	210	I	J	P
BENZO(K)FLUORANTHENE	64	U	U	
CHRYSENE	62	U	U	
DIBENZO(A,H)ANTHRACENE	130	I	J	P
FLUORANTHENE	74	U	U	
FLUORENE	160	I	J	P
INDENO(1,2,3-CD)PYRENE	340	I	J	P
NAPHTHALENE	3500			
PHENANTHRENE	55	U	U	
PYRENE	68	U	U	

Parameter	Result	Lab Qual	Val Qual	Qual Code
1-METHYLNAPHTHALENE	10000			
2-METHYLNAPHTHALENE	18000			

PROJ_NO: 00583

SDG: CTO056-3 MEDIA: SOIL DATA FRACTION: PAH

nsample DP33S 5-6D
 samp_date 5/6/2007
 lab_id SA2140-5
 qc_type NM
 units UG/KG
 Pct_Solids 84.5
 DUP_OF:

Parameter	Result	Lab Qual	Val Qual	Qual Code
1-METHYLNAPHTHALENE	11	U	U	
2-METHYLNAPHTHALENE	9	U	U	
ACENAPHTHENE	7	U	U	
ACENAPHTHYLENE	3	U	U	
ANTHRACENE	4	U	U	
BENZO(A)ANTHRACENE	4	U	U	
BENZO(A)PYRENE	4	U	U	
BENZO(B)FLUORANTHENE	4	U	U	
BENZO(G,H,I)PERYLENE	4	U	U	
BENZO(K)FLUORANTHENE	4	U	U	
CHRYSENE	3	U	U	
DIBENZO(A,H)ANTHRACENE	4	U	U	
FLUORANTHENE	4	U	U	
FLUORENE	4	U	U	
INDENO(1,2,3-CD)PYRENE	5	U	U	
NAPHTHALENE	3	U	U	
PHENANTHRENE	3	U	U	
PYRENE	4	I	J	P

PROJ_NO: 00583

SDG: CTO056-3 MEDIA: SOIL DATA FRACTION: PET

nsample	DP05S 5-6D	nsample	DP14S 4-5D	nsample	DP25S 4.5-6D
samp_date	5/6/2007	samp_date	5/6/2007	samp_date	5/6/2007
lab_id	SA2140-2	lab_id	SA2140-1	lab_id	SA2140-4
qc_type	NM	qc_type	NM	qc_type	NM
Pct_Solids	94.8	Pct_Solids	75.9	Pct_Solids	77.1
DUP_OF:		DUP_OF:		DUP_OF:	

Parameter	units	Result	Val Qual	Qual Code
TPH (C08-C40)	MG/KG	28	U	A

Parameter	units	Result	Val Qual	Qual Code
TPH (C08-C40)	MG/KG	32	U	A

Parameter	units	Result	Val Qual	Qual Code
TPH (C08-C40)	MG/KG	120		

PROJ_NO: 00583

SDG: CTO056-3 MEDIA: SOIL DATA FRACTION: PET

nsample	DP26S 6-8DDL	DP33S 5-6D
samp_date	5/6/2007	5/6/2007
lab_id	SA2140-3DL	SA2140-5
qc_type	NM	NM
Pct_Solids	93.9	84.5
DUP_OF:		

Parameter	units	Result	Val Qual	Qual Code
TPH (C08-C40)	MG/KG	4000		

Parameter	units	Result	Val Qual	Qual Code
TPH (C08-C40)	MG/KG	13	U	A

APPENDIX B

RESULTS AS REPORTED BY THE LABORATORY

KATAHDIN ANALYTICAL SERVICES
Report of Analytical Results

Client: Tetra Tech NUS, Inc
Project: CTO 056 NAS Pensacola
PO No:
Sample Date: 05/06/07
Received Date: 05/09/07
Extraction Date:
Analysis Date: 15-MAY-2007 19:52
Report Date: 05/30/2007
Matrix: SOIL
% Solids: 94.8

Lab ID: SA2171-4RA
Client ID: DP05S 5-6D
SDG: CTO056-3
Extracted by:
Extraction Method: SW846 5035
Analyst: DMF
Analysis Method: SW846 8260B
Lab Prep Batch: WG38951
Units: ug/Kgdrywt

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
108-88-3	Toluene		10	1.0	5	5	2
71-43-2	Benzene		6	1.0	5	5	0.9
100-41-4	Ethylbenzene	I	2	1.0	5	5	0.8
	m+p-Xylenes	U	4	1.0	10	10	4
95-47-6	o-Xylene	U	2	1.0	5	5	2
1330-20-7	Xylenes (total)	U	5	1.0	15	15	5
1868-53-7	Dibromofluoromethane		80%				
17060-07-0	1,2-Dichloroethane-D4		78%				
2037-26-5	Toluene-D8		78%				
460-00-4	P-Bromofluorobenzene		75%				

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KATAHDIN ANALYTICAL SERVICES

Report of Analytical Results

Client: Tetra Tech NUS, Inc
 Project: CTO 056 NAS Pensacola
 PO No:
 Sample Date: 05/06/07
 Received Date: 05/09/07
 Extraction Date:
 Analysis Date: 14-MAY-2007 22:52
 Report Date: 05/30/2007
 Matrix: SOIL
 % Solids: 75.9

Lab ID: SA2171-3
 Client ID: DP14S 4-5D
 SDG: CTO056-3
 Extracted by:
 Extraction Method: SW846 5035
 Analyst: DMF
 Analysis Method: SW846 8260B
 Lab Prep Batch: WG38921
 Units: ug/Kgdrywt

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
108-88-3	Toluene	U	2	1.0	5	7	2
71-43-2	Benzene	U	1	1.0	5	7	1
100-41-4	Ethylbenzene	U	1	1.0	5	7	1
	m+p-Xylenes	U	5	1.0	10	13	5
95-47-6	o-Xylene	U	2	1.0	5	7	2
1330-20-7	Xylenes (total)	U	7	1.0	15	20	7
1868-53-7	Dibromofluoromethane		76%				
17060-07-0	1,2-Dichloroethane-D4		74%				
2037-26-5	Toluene-D8		79%				
460-00-4	P-Bromofluorobenzene		80%				

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KATAHDIN ANALYTICAL SERVICES

Report of Analytical Results

Client: Tetra Tech NUS, Inc
 Project: CTO 056 NAS Pensacola
 PO No:
 Sample Date: 05/06/07
 Received Date: 05/09/07
 Extraction Date:
 Analysis Date: 14-MAY-2007 22:15
 Report Date: 05/30/2007
 Matrix: SOIL
 % Solids: 77.1

Lab ID: SA2171-1
 Client ID: DP25S 4,5-6D
 SDG: CTO056-3
 Extracted by:
 Extraction Method: SW846 5035
 Analyst: DMF
 Analysis Method: SW846 8260B
 Lab Prep Batch: WG38921
 Units: ug/Kgdrywt

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
108-88-3	Toluene	U	2	1.0	5	5	2
71-43-2	Benzene	U	1	1.0	5	5	1
100-41-4	Ethylbenzene	U	0.9	1.0	5	5	0.9
	m+p-Xylenes	U	4	1.0	10	11	4
95-47-6	o-Xylene	U	2	1.0	5	5	2
1330-20-7	Xylenes (total)	U	6	1.0	15	16	6
1868-53-7	Dibromofluoromethane		80%				
17060-07-0	1,2-Dichloroethane-D4		76%				
2037-26-5	Toluene-D8		79%				
460-00-4	P-Bromofluorobenzene		95%				

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KATAHDIN ANALYTICAL SERVICES
Report of Analytical Results

Client: Tetra Tech NUS, Inc
Project: CTO 056 NAS Pensacola
PO No:
Sample Date: 05/06/07
Received Date: 05/09/07
Extraction Date:
Analysis Date: 15-MAY-2007 21:42
Report Date: 05/30/2007
Matrix: SOIL
% Solids: 93.9

Lab ID: SA2171-5RA
Client ID: DP26S 6-8D
SDG: CTO056-3
Extracted by:
Extraction Method: SW846 5035
Analyst: DMF
Analysis Method: SW846 8260B
Lab Prep Batch: WG38951
Units: ug/Kgdrywt

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
108-88-3	Toluene	U	2	1.0	5	6	2
71-43-2	Benzene	U	1	1.0	5	6	1
100-41-4	Ethylbenzene		21	1.0	5	6	0.9
	m+p-Xylenes		60	1.0	10	12	4
95-47-6	o-Xylene	U	2	1.0	5	6	2
1330-20-7	Xylenes (total)		60	1.0	15	17	6
1868-53-7	Dibromofluoromethane		84%				
17060-07-0	1,2-Dichloroethane-D4		83%				
2037-26-5	Toluene-D8		80%				
460-00-4	P-Bromofluorobenzene		J1200%				

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KATAHDIN ANALYTICAL SERVICES
Report of Analytical Results

Client: Tetra Tech NUS, Inc
Project: CTO 056 NAS Pensacola
PO No:
Sample Date: 05/06/07
Received Date: 05/09/07
Extraction Date:
Analysis Date: 14-MAY-2007 16:44
Report Date: 05/30/2007
Matrix: SOIL
% Solids: 84.5

Lab ID: SA2171-2
Client ID: DP33S 5-6D
SDG: CTO056-3
Extracted by:
Extraction Method: SW846 5035
Analyst: DMF
Analysis Method: SW846 8260B
Lab Prep Batch: WG38921
Units: ug/Kgdrywt

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
108-88-3	Toluene	U	2	1.0	5	5	2
71-43-2	Benzene	U	1	1.0	5	5	1
100-41-4	Ethylbenzene	U	0.9	1.0	5	5	0.9
	m+p-Xylenes	U	4	1.0	10	11	4
95-47-6	o-Xylene	U	2	1.0	5	5	2
1330-20-7	Xylenes (total)	U	6	1.0	15	16	6
1868-53-7	Dibromofluoromethane		82%				
17060-07-0	1,2-Dichloroethane-D4		83%				
2037-26-5	Toluene-D8		77%				
460-00-4	P-Bromofluorobenzene		80%				

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KATAHDIN ANALYTICAL SERVICES

Report of Analytical Results

Client: Tetra Tech NUS, Inc
 Project: CTO 056 NAS Pensacola
 PO No:
 Sample Date: 05/06/07
 Received Date: 05/08/07
 Extraction Date: 05/10/07
 Analysis Date: 17-MAY-2007 20:15
 Report Date: 05/22/2007
 Matrix: SOIL
 % Solids: 94.8

Lab ID: SA2140-2
 Client ID: DP05S 5-6D
 SDG: CTO056-3
 Extracted by: KM
 Extraction Method: SW846 3550
 Analyst: JCG
 Analysis Method: SW846 M8270C
 Lab Prep Batch: WG38781
 Units: ug/Kgdrywt

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
91-20-3	Naphthalene	U	3	1.0	20	21	3
91-57-6	2-Methylnaphthalene	U	8	1.0	20	21	8
90-12-0	1-Methylnaphthalene	U	10	1.0	20	21	10
208-96-8	Acenaphthylene		23	1.0	20	21	2
83-32-9	Acenaphthene	U	6	1.0	20	21	6
86-73-7	Fluorene	U	3	1.0	20	21	3
85-01-8	Phenanthrene	I	5	1.0	20	21	3
120-12-7	Anthracene	I	4	1.0	20	21	4
206-44-0	Fluoranthene		24	1.0	20	21	4
129-00-0	Pyrene	I	20	1.0	20	21	3
56-55-3	Benzo(a)anthracene		36	1.0	20	21	3
218-01-9	Chrysene		37	1.0	20	21	3
205-99-2	Benzo(b)fluoranthene		57	1.0	20	21	3
207-08-9	Benzo(k)fluoranthene		24	1.0	20	21	3
50-32-8	Benzo(a)pyrene		48	1.0	20	21	3
193-39-5	Indeno(1,2,3-cd)pyrene		88	1.0	20	21	5
191-24-2	Benzo(g,h,i)perylene		44	1.0	20	21	3
53-70-3	Dibenzo(a,h)anthracene	I	7	1.0	20	21	4
7297-45-2	2-Methylnaphthalene-d10		75%				
81103-79-9	Fluorene-d10		66%				
1718-52-1	Pyrene-d10		74%				

KATAHDIN ANALYTICAL SERVICES

Report of Analytical Results

Client: Tetra Tech NUS, Inc
 Project: CTO 056 NAS Pensacola
 PO No:
 Sample Date: 05/06/07
 Received Date: 05/08/07
 Extraction Date: 05/10/07
 Analysis Date: 18-MAY-2007 17:22
 Report Date: 05/22/2007
 Matrix: SOIL
 % Solids: 94.8

Lab ID: SA2140-2RA
 Client ID: DP05S 5-6D
 SDG: CTO056-3
 Extracted by: KM
 Extraction Method: SW846 3550
 Analyst: JCG
 Analysis Method: SW846 M8270C
 Lab Prep Batch: WG38781
 Units: ug/Kgdrywt

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
91-20-3	Naphthalene	U	3	1.0	20	21	3
91-57-6	2-Methylnaphthalene	U	8	1.0	20	21	8
90-12-0	1-Methylnaphthalene	U	10	1.0	20	21	10
208-96-8	Acenaphthylene		24	1.0	20	21	2
83-32-9	Acenaphthene	U	6	1.0	20	21	6
86-73-7	Fluorene	U	3	1.0	20	21	3
85-01-8	Phenanthrene	I	5	1.0	20	21	3
120-12-7	Anthracene	I	5	1.0	20	21	4
206-44-0	Fluoranthene		24	1.0	20	21	4
129-00-0	Pyrene	I	20	1.0	20	21	3
56-55-3	Benzo (a) anthracene		40	1.0	20	21	3
218-01-9	Chrysene		33	1.0	20	21	3
205-99-2	Benzo (b) fluoranthene		59	1.0	20	21	3
207-08-9	Benzo (k) fluoranthene		23	1.0	20	21	3
50-32-8	Benzo (a) pyrene		48	1.0	20	21	3
193-39-5	Indeno (1,2,3-cd) pyrene		66	1.0	20	21	5
191-24-2	Benzo (g,h,i) perylene		37	1.0	20	21	3
53-70-3	Dibenzo (a,h) anthracene	I	5	1.0	20	21	4
7297-45-2	2-Methylnaphthalene-d10		74%				
81103-79-9	Fluorene-d10		65%				
1718-52-1	Pyrene-d10		76%				

KATAHDIN ANALYTICAL SERVICES

Report of Analytical Results

Client: Tetra Tech NUS, Inc
 Project: CTO 056 NAS Pensacola
 PO No:
 Sample Date: 05/06/07
 Received Date: 05/08/07
 Extraction Date: 05/10/07
 Analysis Date: 18-MAY-2007 16:36
 Report Date: 05/22/2007
 Matrix: SOIL
 % Solids: 75.9

Lab ID: SA2140-1RA
 Client ID: DP14S 4-5D
 SDG: CTO056-3
 Extracted by: KM
 Extraction Method: SW846 3550
 Analyst: JCG
 Analysis Method: SW846 M8270C
 Lab Prep Batch: WG38781
 Units: ug/Kgdrywt

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
91-20-3	Naphthalene	U	3	1.0	20	26	3
91-57-6	2-Methylnaphthalene	U	10	1.0	20	26	10
90-12-0	1-Methylnaphthalene	U	12	1.0	20	26	12
208-96-8	Acenaphthylene	I	3	1.0	20	26	3
83-32-9	Acenaphthene	U	8	1.0	20	26	8
86-73-7	Fluorene	U	4	1.0	20	26	4
85-01-8	Phenanthrene	U	3	1.0	20	26	3
120-12-7	Anthracene	U	5	1.0	20	26	5
206-44-0	Fluoranthene	U	5	1.0	20	26	5
129-00-0	Pyrene	U	4	1.0	20	26	4
56-55-3	Benzo(a)anthracene	U	4	1.0	20	26	4
218-01-9	Chrysene	U	4	1.0	20	26	4
205-99-2	Benzo(b)fluoranthene	U	4	1.0	20	26	4
207-08-9	Benzo(k)fluoranthene	U	4	1.0	20	26	4
50-32-8	Benzo(a)pyrene	I	6	1.0	20	26	4
193-39-5	Indeno(1,2,3-cd)pyrene	U	6	1.0	20	26	6
191-24-2	Benzo(g,h,i)perylene	U	4	1.0	20	26	4
53-70-3	Dibenzo(a,h)anthracene	U	5	1.0	20	26	5
7297-45-2	2-Methylnaphthalene-d10		76%				
81103-79-9	Fluorene-d10		75%				
1718-52-1	Pyrene-d10		86%				

KATAHDIN ANALYTICAL SERVICES

Report of Analytical Results

Client: Tetra Tech NUS, Inc
 Project: CTO 056 NAS Pensacola
 PO No:
 Sample Date: 05/06/07
 Received Date: 05/08/07
 Extraction Date: 05/10/07
 Analysis Date: 18-MAY-2007 14:20
 Report Date: 05/22/2007
 Matrix: SOIL
 % Solids: 77.1

Lab ID: SA2140-4
 Client ID: DP25S 4.5-6D
 SDG: CTO056-3
 Extracted by: KM
 Extraction Method: SW846 3550
 Analyst: JCG
 Analysis Method: SW846 M8270C
 Lab Prep Batch: WG38781
 Units: ug/Kgdrywt

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
91-20-3	Naphthalene		33	1.0	20	26	3
91-57-6	2-Methylnaphthalene	L	230	1.0	20	26	9
90-12-0	1-Methylnaphthalene		180	1.0	20	26	12
208-96-8	Acenaphthylene	I	8	1.0	20	26	3
83-32-9	Acenaphthene	I	12	1.0	20	26	8
86-73-7	Fluorene	I	6	1.0	20	26	4
85-01-8	Phenanthrene	I	4	1.0	20	26	3
120-12-7	Anthracene	U	5	1.0	20	26	5
206-44-0	Fluoranthene	I	21	1.0	20	26	4
129-00-0	Pyrene	I	16	1.0	20	26	4
56-55-3	Benzo(a)anthracene	I	19	1.0	20	26	4
218-01-9	Chrysene	I	20	1.0	20	26	4
205-99-2	Benzo(b)fluoranthene		26	1.0	20	26	4
207-08-9	Benzo(k)fluoranthene	I	14	1.0	20	26	4
50-32-8	Benzo(a)pyrene	I	22	1.0	20	26	4
193-39-5	Indeno(1,2,3-cd)pyrene	I	22	1.0	20	26	6
191-24-2	Benzo(g,h,i)perylene	I	11	1.0	20	26	4
53-70-3	Dibenzo(a,h)anthracene	U	5	1.0	20	26	5
7297-45-2	2-Methylnaphthalene-d10		92%				
81103-79-9	Fluorene-d10		69%				
1718-52-1	Pyrene-d10		73%				

KATAHDIN ANALYTICAL SERVICES

Report of Analytical Results

Client: Tetra Tech NUS, Inc
 Project: CTO 056 NAS Pensacola
 PO No:
 Sample Date: 05/06/07
 Received Date: 05/08/07
 Extraction Date: 05/10/07
 Analysis Date: 21-MAY-2007 14:32
 Report Date: 05/22/2007
 Matrix: SOIL
 % Solids: 77.1

Lab ID: SA2140-4DL
 Client ID: DP25S 4.5-6D
 SDG: CTO056-3
 Extracted by: KM
 Extraction Method: SW846 3550
 Analyst: JCG
 Analysis Method: SW846 M8270C
 Lab Prep Batch: WG38781
 Units: ug/Kgdrywt

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
91-20-3	Naphthalene	I	32	2.0	20	52	7
91-57-6	2-Methylnaphthalene		250	2.0	20	52	19
90-12-0	1-Methylnaphthalene		200	2.0	20	52	24
208-96-8	Acenaphthylene	I	12	2.0	20	52	6
83-32-9	Acenaphthene	U	15	2.0	20	52	15
86-73-7	Fluorene	I	8	2.0	20	52	8
85-01-8	Phenanthrene	U	7	2.0	20	52	7
120-12-7	Anthracene	U	9	2.0	20	52	9
206-44-0	Fluoranthene	I	21	2.0	20	52	9
129-00-0	Pyrene	I	16	2.0	20	52	8
56-55-3	Benzo(a)anthracene	I	21	2.0	20	52	8
218-01-9	Chrysene	I	19	2.0	20	52	8
205-99-2	Benzo(b)fluoranthene	I	30	2.0	20	52	8
207-08-9	Benzo(k)fluoranthene	I	12	2.0	20	52	8
50-32-8	Benzo(a)pyrene	I	23	2.0	20	52	8
193-39-5	Indeno(1,2,3-cd)pyrene	I	12	2.0	20	52	12
191-24-2	Benzo(g,h,i)perylene	I	9	2.0	20	52	8
53-70-3	Dibenzo(a,h)anthracene	U	10	2.0	20	52	10
7297-45-2	2-Methylnaphthalene-d10		86%				
81103-79-9	Fluorene-d10		69%				
1718-52-1	Pyrene-d10		67%				

KATAHDIN ANALYTICAL SERVICES

Report of Analytical Results

Client: Tetra Tech NUS, Inc
 Project: CTO 056 NAS Pensacola
 PO No:
 Sample Date: 05/06/07
 Received Date: 05/08/07
 Extraction Date: 05/10/07
 Analysis Date: 21-MAY-2007 13:46
 Report Date: 05/22/2007
 Matrix: SOIL
 % Solids: 93.9

Lab ID: SA2140-3DL
 Client ID: DP26S 6-8D
 SDG: CTO056-3
 Extracted by: KM
 Extraction Method: SW846 3550
 Analyst: JCG
 Analysis Method: SW846 M8270C
 Lab Prep Batch: WG38781
 Units: ug/Kgdrywt

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
91-20-3	Naphthalene		3500	20	20	420	55
91-57-6	2-Methylnaphthalene	L	15000	20	20	420	160
90-12-0	1-Methylnaphthalene	L	9200	20	20	420	200
208-96-8	Acenaphthylene	U	47	20	20	420	47
83-32-9	Acenaphthene	I	360	20	20	420	120
86-73-7	Fluorene	I	160	20	20	420	66
85-01-8	Phenanthrene	U	55	20	20	420	55
120-12-7	Anthracene	U	77	20	20	420	77
206-44-0	Fluoranthene	U	74	20	20	420	74
129-00-0	Pyrene	U	68	20	20	420	68
56-55-3	Benzo (a) anthracene	U	64	20	20	420	64
218-01-9	Chrysene	U	62	20	20	420	62
205-99-2	Benzo (b) fluoranthene	I	79	20	20	420	66
207-08-9	Benzo (k) fluoranthene	U	64	20	20	420	64
50-32-8	Benzo (a) pyrene	U	64	20	20	420	64
193-39-5	Indeno (1,2,3-cd) pyrene	I	340	20	20	420	96
191-24-2	Benzo (g,h,i) perylene	I	210	20	20	420	66
53-70-3	Dibenzo (a,h) anthracene	I	130	20	20	420	81
7297-45-2	2-Methylnaphthalene-d10		D				
81103-79-9	Fluorene-d10		D				
1718-52-1	Pyrene-d10		D				

KATAHDIN ANALYTICAL SERVICES

Report of Analytical Results

Client: Tetra Tech NUS, Inc
 Project: CTO 056 NAS Pensacola
 PO No:
 Sample Date: 05/06/07
 Received Date: 05/08/07
 Extraction Date: 05/10/07
 Analysis Date: 21-MAY-2007 18:23
 Report Date: 05/22/2007
 Matrix: SOIL
 % Solids: 93.9

Lab ID: SA2140-3DL2
 Client ID: DP26S 6-8D
 SDG: CTO056-3
 Extracted by: KM
 Extraction Method: SW846 3550
 Analyst: JCG
 Analysis Method: SW846 M8270C
 Lab Prep Batch: WG38781
 Units: ug/Kgdrywt

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
91-20-3	Naphthalene		4100	100	20	2100	280
91-57-6	2-Methylnaphthalene		18000	100	20	2100	780
90-12-0	1-Methylnaphthalene		10000	100	20	2100	980
208-96-8	Acenaphthylene	U	230	100	20	2100	230
83-32-9	Acenaphthene	U	630	100	20	2100	630
86-73-7	Fluorene	U	330	100	20	2100	330
85-01-8	Phenanthrene	U	280	100	20	2100	280
120-12-7	Anthracene	U	380	100	20	2100	380
206-44-0	Fluoranthene	U	370	100	20	2100	370
129-00-0	Pyrene	U	340	100	20	2100	340
56-55-3	Benzo (a) anthracene	U	320	100	20	2100	320
218-01-9	Chrysene	U	310	100	20	2100	310
205-99-2	Benzo (b) fluoranthene	U	330	100	20	2100	330
207-08-9	Benzo (k) fluoranthene	U	320	100	20	2100	320
50-32-8	Benzo (a) pyrene	U	320	100	20	2100	320
193-39-5	Indeno (1,2,3-cd) pyrene	U	480	100	20	2100	480
191-24-2	Benzo (g,h,i) perylene	U	330	100	20	2100	330
53-70-3	Dibenzo (a,h) anthracene	U	400	100	20	2100	400
7297-45-2	2-Methylnaphthalene-d10		D				
81103-79-9	Fluorene-d10		D				
1718-52-1	Pyrene-d10		D				

KATAHDIN ANALYTICAL SERVICES

Report of Analytical Results

Client: Tetra Tech NUS, Inc
 Project: CTO 056 NAS Pensacola
 PO No:
 Sample Date: 05/06/07
 Received Date: 05/08/07
 Extraction Date: 05/10/07
 Analysis Date: 18-MAY-2007 15:06
 Report Date: 05/22/2007
 Matrix: SOIL
 % Solids: 84.5

Lab ID: SA2140-5
 Client ID: DP33S 5-6D
 SDG: CTO056-3
 Extracted by: KM
 Extraction Method: SW846 3550
 Analyst: JCG
 Analysis Method: SW846 M8270C
 Lab Prep Batch: WG38781
 Units: ug/Kgdrywt

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
91-20-3	Naphthalene	U	3	1.0	20	24	3
91-57-6	2-Methylnaphthalene	U	9	1.0	20	24	9
90-12-0	1-Methylnaphthalene	U	11	1.0	20	24	11
208-96-8	Acenaphthylene	U	3	1.0	20	24	3
83-32-9	Acenaphthene	U	7	1.0	20	24	7
86-73-7	Fluorene	U	4	1.0	20	24	4
85-01-8	Phenanthrene	U	3	1.0	20	24	3
120-12-7	Anthracene	U	4	1.0	20	24	4
206-44-0	Fluoranthene	U	4	1.0	20	24	4
129-00-0	Pyrene	I	4	1.0	20	24	4
56-55-3	Benzo (a) anthracene	U	4	1.0	20	24	4
218-01-9	Chrysene	U	3	1.0	20	24	3
205-99-2	Benzo (b) fluoranthene	U	4	1.0	20	24	4
207-08-9	Benzo (k) fluoranthene	U	4	1.0	20	24	4
50-32-8	Benzo (a) pyrene	U	4	1.0	20	24	4
193-39-5	Indeno (1,2,3-cd) pyrene	U	5	1.0	20	24	5
191-24-2	Benzo (g,h,i) perylene	U	4	1.0	20	24	4
53-70-3	Dibenzo (a,h) anthracene	U	4	1.0	20	24	4
7297-45-2	2-Methylnaphthalene-d10		57%				
81103-79-9	Fluorene-d10		68%				
1718-52-1	Pyrene-d10		87%				

KATAHDIN ANALYTICAL SERVICES
Report of Analytical Results

Client: Tetra Tech NUS, Inc
Project: CTO 056 NAS Pensacola
PO No:
Sample Date: 05/06/07
Received Date: 05/08/07
Extraction Date: 05/10/07
Analysis Date: 23-MAY-2007 14:48
Report Date: 05/30/2007
Matrix: SOIL
% Solids: 94.8

Lab ID: SA2140-2
Client ID: DP058 5-6D
SDG: CTO056-3
Extracted by: KM
Extraction Method: SW846 3550
Analyst: TR
Analysis Method: SW846 M8015
Lab Prep Batch: WG38752
Units: mg/Kgdrywt

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
	Petroleum Range Organics	V	28	1.0	20	21	6.0
	n-Triacontane-D62		106%				
	O-Terphenyl		102%				

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KATAHDIN ANALYTICAL SERVICES
Report of Analytical Results

Client: Tetra Tech NUS, Inc
Project: CTO 056 NAS Pensacola
PO No:
Sample Date: 05/06/07
Received Date: 05/08/07
Extraction Date: 05/10/07
Analysis Date: 25-MAY-2007 11:37
Report Date: 05/30/2007
Matrix: SOIL
% Solids: 75.9

Lab ID: SA2140-1
Client ID: DP14S 4-5D
SDG: CTO056-3
Extracted by: KM
Extraction Method: SW846 3550
Analyst: TR
Analysis Method: SW846 M8015
Lab Prep Batch: WG38752
Units: mg/Kgdrywt

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
	Petroleum Range Organics	V	32	1.0	20	26	7.5
	n-Triacontane-D62		111%				
	O-Terphenyl		J116%				

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KATAHDIN ANALYTICAL SERVICES
Report of Analytical Results

Client: Tetra Tech NUS, Inc
Project: CTO 056 NAS Pensacola
PO No:
Sample Date: 05/06/07
Received Date: 05/08/07
Extraction Date: 05/10/07
Analysis Date: 22-MAY-2007 06:07
Report Date: 05/30/2007
Matrix: SOIL
% Solids: 77.1

Lab ID: SA2140-4
Client ID: DP25S 4.5-6D
SDG: CTO056-3
Extracted by: KM
Extraction Method: SW846 3550
Analyst: TR
Analysis Method: SW846 M8015
Lab Prep Batch: WG38752
Units: mg/Kgdrywt

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
	Petroleum Range Organics	V	120	1.0	20	26	7.4
	n-Triacontane-D62		110%				
	O-Terphenyl		102%				

Page 01 of 01 CAE2116.d

KATAHDIN ANALYTICAL SERVICES
Report of Analytical Results

Client: Tetra Tech NUS, Inc
Project: CTO 056 NAS Pensacola
PO No:
Sample Date: 05/06/07
Received Date: 05/08/07
Extraction Date: 05/10/07
Analysis Date: 22-MAY-2007 16:59
Report Date: 05/30/2007
Matrix: SOIL
% Solids: 93.9

Lab ID: SA2140-3DL
Client ID: DP26S 6-8D
SDG: CTO056-3
Extracted by: KM
Extraction Method: SW846 3550
Analyst: TR
Analysis Method: SW846 M8015
Lab Prep Batch: WG38752
Units: mg/Kgdrywt

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
	Petroleum Range Organics	V	4000	100	20	2100	600
	n-Triacontane-D62		D				
	O-Terphenyl		D				

Page 01 of 01 CAE2124.d

KATAHDIN ANALYTICAL SERVICES
Report of Analytical Results

Client: Tetra Tech NUS, Inc
Project: CTO 056 NAS Pensacola
PO No:
Sample Date: 05/06/07
Received Date: 05/08/07
Extraction Date: 05/10/07
Analysis Date: 22-MAY-2007 07:22
Report Date: 05/30/2007
Matrix: SOIL
% Solids: 84.5

Lab ID: SA2140-5
Client ID: DP33S 5-6D
SDG: CTO056-3
Extracted by: KM
Extraction Method: SW846 3550
Analyst: TR
Analysis Method: SW846 M8015
Lab Prep Batch: WG38752
Units: mg/Kgdrywt

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
	Petroleum Range Organics	IV	13	1.0	20	24	6.7
	n-Triacontane-D62		111%				
	O-Terphenyl		104%				

Page 01 of 01 CAE2117.d



TO: MR. G. WALKER **DATE:** JULY 20, 2007
FROM: EDWARD SEDLMYER **COPIES:** DV FILE
SUBJECT: ORGANIC DATA VALIDATION- VOA/PAH/TPH/LEAD
CTO 0056, NAS PENSACOLA
SDG CTO056-4

SAMPLES: 15/Aqueous/LEAD

DP14W 15-19	DP14W 26-30	D39W 10-14
PEN21GW1102	PEN21GW1202	PEN21GW1302
PEN21GW1502	PEN21GW1602	PEN21GW1702
PEN21GW1802	PEN21GW2102	PEN21GW2302
PEN21GW4102	PEN21GW4202	PEN21GW4403

6/Aqueous/VOC

DP14W 15-19	DP14W 26-30	DP38W 18-22
DP38W 26-30	D39W 10-14	TB 050707

5/Aqueous/PAH/TPH

DP14W 15-19	DP14W 26-30	DP38W 18-22
DP38W 26-30	D39W 10-14	

OVERVIEW

The sample set for CTO 0056, NAS Pensacola, SDG CTO056-4 consists of eighteen (18) aqueous environmental samples. The samples were analyzed as listed above for BTEX volatile organic compounds (VOCs), polynuclear aromatic hydrocarbons (PAHs), total petroleum hydrocarbon (TPH), and lead.

The samples were collected by TetraTech NUS on May 5, 6, and 7, 2007 and analyzed by Katahdin Analytical Services, Inc. All analyses were conducted in accordance with SW-846 Methods 8260B, 8270SIM, 6010B, and FDEP FL-PRO (TPH) analytical and reporting protocols. The data contained in this SDG were validated with regard to the following parameters:

- * • Data completeness
- * • Holding times
- Initial/continuing calibrations
- * • Laboratory method blank results
- * • Detection Limits

The symbol (*) indicates that quality control criteria were met for this parameter. Problems affecting data quality are discussed below; documentation supporting these findings is presented in Appendix C. Qualified Analytical results are presented in Appendix A. Results as reported by the laboratory are presented in Appendix B.

Volatiles

No qualification of the data was necessary.

PAHs

Sample DP39W 10-14 required a 3X dilution for naphthalene, 1-methylnaphthalene, and 2-methylnaphthalene concentrations greater than the linear calibration range of the instrument. The naphthalene, 1-methylnaphthalene, and 2-methylnaphthalene results were reported from the 3X dilution. All other results are reported from the undiluted analysis.

The continuing calibration analyzed on 05/17/07 @11:13 had percent differences greater than 25% for dibenzo(a,h)anthracene and indeno(1,2,3-cd)pyrene. No action was taken on this basis because the percent difference was less than 90%.

The continuing calibration analyzed on 05/18/07 @10:12 had percent differences greater than 25% for pyrene, benzo(a)anthracene, benzo(b)fluoranthene, and benzo(g,h,i)perylene. No action was taken on this basis because the percent difference was less than 90%.

TPH

No qualification of the data was necessary.

Lead

No qualification of the data was necessary.

Additional Comments:

Positive results less than the reporting limit (RL) were qualified as estimated "J", due to uncertainty near the detection limit.

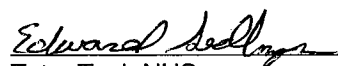
EXECUTIVE SUMMARY

Laboratory Performance Issues: Continuing calibration noncompliances were noted for the PAH fraction.

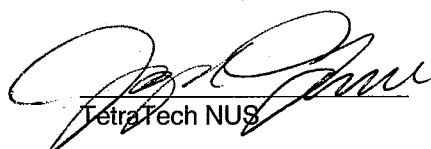
Other Factors Affecting Data Quality: None.

The data for these analyses were reviewed with reference to the EPA Functional Guidelines for Organic Data Validation (10/99) and the Department of Defense (DoD) document entitled "Quality Systems Manual (QSM) for Environmental Laboratories" (January 2006). The text of this report has been formulated to address only those problem areas affecting data quality.

"I attest that the data referenced herein were validated according to the agreed upon validation criteria as specified in the DoD QSM for Environmental Laboratories.


Tetra Tech NUS

Edward Sedlmyer
Chemist/Data Validator


Tetra Tech NUS

Joseph A. Samchuck
Data Validation Quality Assurance Officer

Attachments:

Appendix A – Qualified Analytical Results
Appendix B – Results as Reported by the Laboratory
Appendix C – Support Documentation

APPENDIX A

QUALIFIED ANALYTICAL RESULTS

Data Validation Qualifier Codes:

- A = Lab Blank Contamination
- B = Field Blank Contamination
- C = Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
- C01 = GC/MS Tuning Noncompliance
- D = MS/MSD Recovery Noncompliance
- E = LCS/LCSD Recovery Noncompliance
- F = Lab Duplicate Imprecision
- G = Field Duplicate Imprecision
- H = Holding Time Exceedance
- I = ICP Serial Dilution Noncompliance
- J = GFAA PDS - GFAA MSA's $r < 0.995$ / ICP PDS Recovery Noncompliance
- K = ICP Interference - includes ICS % R Noncompliance
- L = Instrument Calibration Range Exceedance
- M = Sample Preservation Noncompliance
- N = Internal Standard Noncompliance
- N01 = Internal Standard Recovery Noncompliance Dioxins
- N02 = Recovery Standard Noncompliance Dioxins
- N03 = Clean-up Standard Noncompliance Dioxins
- O = Poor Instrument Performance (e.g. base-line drifting)
- P = Uncertainty near detection limit ($< 2 \times$ IDL for inorganics and $< \text{CRQL}$ for organics)
- Q = Other problems (can encompass a number of issues; e.g. chromatography, interferences, etc.)
- R = Surrogates Recovery Noncompliance
- S = Pesticide/PCB Resolution
- T = % Breakdown Noncompliance for DDT and Endrin
- U = % Difference between columns/detectors $> 25\%$ for positive results determined via GC/HPLC
- V = Non-linear calibrations; correlation coefficient $r < 0.995$
- W = EMPC result
- X = Signal to noise response drop
- Y = Percent solids $< 30\%$
- Z = Uncertainty at 2 sigma deviation is greater than sample activity

PROJ_NO: 00583

SDG: CTO056-4 MEDIA: WATER DATA FRACTION: OV

nsample DP14W 15-19
samp_date 5/6/2007
lab_id SA2141-2
qc_type NM
units UG/L
Pct_Solids 0.0
DUP_OF:

nsample
samp_date
lab_id
qc_type
units
Pct_Solids
DUP_OF:

DP14W 26-30
5/6/2007
SA2141-3
NM
UG/L
0.0

nsample
samp_date
lab_id
qc_type
units
Pct_Solids
DUP_OF:

DP38W 18-22
5/5/2007
SA2141-5
NM
UG/L
0.0

Parameter	Result	Lab Qual	Val Qual	Qual Code
BENZENE	0.5	U	U	
ETHYLBENZENE	0.3	U	U	
M+P-XYLENES	3			
O-XYLENE	0.4	U	U	
TOLUENE	0.4	U	U	
TOTAL XYLENES	3			

Parameter	Result	Lab Qual	Val Qual	Qual Code
BENZENE	0.5	U	U	
ETHYLBENZENE	0.6	I	J	P
M+P-XYLENES	9			
O-XYLENE	0.4	U	U	
TOLUENE	0.4	U	U	
TOTAL XYLENES	9			

Parameter	Result	Lab Qual	Val Qual	Qual Code
BENZENE	0.5	U	U	
ETHYLBENZENE	0.3	U	U	
M+P-XYLENES	1	U	U	
O-XYLENE	0.4	U	U	
TOLUENE	0.4	U	U	
TOTAL XYLENES	1	U	U	

PROJ_NO: 00583

SDG: CTO056-4 MEDIA: WATER DATA FRACTION: OV

nsample DP38W 26-30
samp_date 5/5/2007
lab_id SA2141-1
qc_type NM
units UG/L
Pct_Solids 0.0
DUP_OF:

nsample
samp_date
lab_id
qc_type
units
Pct_Solids
DUP_OF:

DP39W 10-14
5/6/2007
SA2141-4
NM
UG/L
0.0

nsample
samp_date
lab_id
qc_type
units
Pct_Solids
DUP_OF:

TB 050707
4/25/2007
SA2141-18
NM
UG/L
0.0

Parameter	Result	Lab Qual	Val Qual
BENZENE	0.5	U	U
ETHYLBENZENE	0.3	U	U
M+P-XYLENES	1	U	U
O-XYLENE	0.4	U	U
TOLUENE	0.4	U	U
TOTAL XYLENES	1	U	U

Parameter	Result	Lab Qual	Val Qual
BENZENE	0.5	U	U
ETHYLBENZENE	29		
M+P-XYLENES	59		
O-XYLENE	2		
TOLUENE	0.6	I	J
TOTAL XYLENES	61		

Parameter	Result	Lab Qual	Val Qual
BENZENE	0.5	U	U
ETHYLBENZENE	0.3	U	U
M+P-XYLENES	1	U	U
O-XYLENE	0.4	U	U
TOLUENE	0.4	U	U
TOTAL XYLENES	1	U	U

PROJ_NO: 00583

SDG: CTO056-4 MEDIA: WATER DATA FRACTION: PAH

nsample DP14W 15-19
samp_date 5/6/2007
lab_id SA2141-2
qc_type NM
units UG/L
Pct_Solids 0.0
DUP_OF:

nsample
samp_date
lab_id
qc_type
units
Pct_Solids
DUP_OF:

DP14W 26-30
5/6/2007
SA2141-3
NM
UG/L
0.0

nsample
samp_date
lab_id
qc_type
units
Pct_Solids
DUP_OF:

DP38W 18-22
5/5/2007
SA2141-5
NM
UG/L
0.0

Parameter	Result	Lab Qual	Val Qual	Qual Code
1-METHYLNAPHTHALENE	0.2	U	U	
2-METHYLNAPHTHALENE	0.07	U	U	
ACENAPHTHENE	0.07	U	U	
ACENAPHTHYLENE	0.06	U	U	
ANTHRACENE	0.06	U	U	
BENZO(A)ANTHRACENE	0.07	U	U	
BENZO(A)PYRENE	0.05	U	U	
BENZO(B)FLUORANTHENE	0.08	U	U	
BENZO(G,H,I)PERYLENE	0.09	U	U	
BENZO(K)FLUORANTHENE	0.1	U	U	
CHRYSENE	0.07	U	U	
DIBENZO(A,H)ANTHRACENE	0.1	U	U	
FLUORANTHENE	0.06	U	U	
FLUORENE	0.07	U	U	
INDENO(1,2,3-CD)PYRENE	0.1	U	U	
NAPHTHALENE	0.1	U	U	
PHENANTHRENE	0.05	U	U	
PYRENE	0.06	U	U	

Parameter	Result	Lab Qual	Val Qual	Qual Code
1-METHYLNAPHTHALENE	0.2	U	U	
2-METHYLNAPHTHALENE	0.3			
ACENAPHTHENE	0.07	U	U	
ACENAPHTHYLENE	0.06	U	U	
ANTHRACENE	0.06	U	U	
BENZO(A)ANTHRACENE	0.07	U	U	
BENZO(A)PYRENE	0.05	U	U	
BENZO(B)FLUORANTHENE	0.08	U	U	
BENZO(G,H,I)PERYLENE	0.09	U	U	
BENZO(K)FLUORANTHENE	0.1	U	U	
CHRYSENE	0.07	U	U	
DIBENZO(A,H)ANTHRACENE	0.1	U	U	
FLUORANTHENE	0.2	I	J	P
FLUORENE	0.07	U	U	
INDENO(1,2,3-CD)PYRENE	0.1	U	U	
NAPHTHALENE	0.2			
PHENANTHRENE	0.2	I	J	P
PYRENE	0.06	U	U	

Parameter	Result	Lab Qual	Val Qual	Qual Code
1-METHYLNAPHTHALENE	0.8			
2-METHYLNAPHTHALENE	0.8			
ACENAPHTHENE	0.07	U	U	
ACENAPHTHYLENE	0.06	U	U	
ANTHRACENE	0.06	U	U	
BENZO(A)ANTHRACENE	0.07	U	U	
BENZO(A)PYRENE	0.05	U	U	
BENZO(B)FLUORANTHENE	0.08	U	U	
BENZO(G,H,I)PERYLENE	0.09	U	U	
BENZO(K)FLUORANTHENE	0.1	U	U	
CHRYSENE	0.07	U	U	
DIBENZO(A,H)ANTHRACENE	0.1	U	U	
FLUORANTHENE	0.06	U	U	
FLUORENE	0.07	U	U	
INDENO(1,2,3-CD)PYRENE	0.1	U	U	
NAPHTHALENE	0.3			
PHENANTHRENE	0.05	U	U	
PYRENE	0.06	U	U	

PROJ_NO: 00583

SDG: CTO056-4 MEDIA: WATER DATA FRACTION: PAH

nsample DP38W 26-30
samp_date 5/5/2007
lab_id SA2141-1
qc_type NM
units UG/L
Pct_Solids 0.0
DUP_OF:

nsample DP39W 10-14
samp_date 5/6/2007
lab_id SA2141-4
qc_type NM
units UG/L
Pct_Solids 0.0
DUP_OF:

nsample DP39W 10-14DL
samp_date 5/6/2007
lab_id SA2141-4DL
qc_type NM
units UG/L
Pct_Solids 0.0
DUP_OF:

Parameter	Result	Lab Qual	Val Qual
1-METHYLNAPHTHALENE	2		
2-METHYLNAPHTHALENE	2		
ACENAPHTHENE	0.07	U	U
ACENAPHTHYLENE	0.06	U	U
ANTHRACENE	0.06	U	U
BENZO(A)ANTHRACENE	0.07	U	U
BENZO(B)FLUORANTHENE	0.05	U	U
BENZO(G,H,I)PERYLENE	0.08	U	U
BENZO(K)FLUORANTHENE	0.08	U	U
CHRYSENE	0.07	U	U
DIBENZO(A,H)ANTHRACENE	0.1	U	U
FLUORANTHENE	0.07	U	U
INDENO(1,2,3-CD)PYRENE	0.1	U	U
NAPHTHALENE	0.9		
PHENANTHRENE	0.05	U	U
PYRENE	0.06	U	U

Parameter	Result	Lab Qual	Val Qual
ACENAPHTHENE	0.2		
ACENAPHTHYLENE	0.06	U	U
ANTHRACENE	0.06	U	U
BENZO(A)ANTHRACENE	0.07	U	U
BENZO(A)PYRENE	0.05	U	U
BENZO(B)FLUORANTHENE	0.08	U	U
BENZO(G,H,I)PERYLENE	0.09	U	U
BENZO(K)FLUORANTHENE	0.1	U	U
CHRYSENE	0.07	U	U
DIBENZO(A,H)ANTHRACENE	0.1	U	U
FLUORANTHENE	0.5		
FLUORENE	0.3		
INDENO(1,2,3-CD)PYRENE	0.1	U	U
PHENANTHRENE	0.05	U	U
PYRENE	0.3		

Parameter	Result	Lab Qual	Val Qual
1-METHYLNAPHTHALENE	13		
2-METHYLNAPHTHALENE	7		
NAPHTHALENE	7		

PROJ_NO: 00583

SDG: CTO056-4 MEDIA: WATER DATA FRACTION: M

DP14W 15-19				DP14W 26-30				DP39W 10-14			
nsample	5/6/2007	SA2141-002	NM	nsample	5/6/2007	SA2141-003	NM	samp_date	5/6/2007	SA2141-004	NM
samp_date				samp_date				lab_id			
lab_id				lab_id				qc_type			
qc_type				qc_type				units			
units				units				Pct_Solids			
Pct_Solids				Pct_Solids				DUP_OF:			
DUP_OF:				DUP_OF:							
Parameter				Parameter				Parameter			
Result	3.7	I		Result	34.4			Result	48.1		
Val				Val				Val			
Qual				Qual				Qual			
Code				Code				Code			
LEAD				LEAD				LEAD			

PROJ_NO: 00583

SDG: CTO056-4 MEDIA: WATER DATA FRACTION: M

nsample	PEN21GW1102	nsample	PEN21GW1202	nsample	PEN21GW1302
samp_date	5/7/2007	samp_date	5/7/2007	samp_date	5/7/2007
lab_id	SA2141-009	lab_id	SA2141-008	lab_id	SA2141-013
qc_type	NM	qc_type	NM	qc_type	NM
units	UG/L	units	UG/L	units	UG/L
Pct_Solids	0.0	Pct_Solids	0.0	Pct_Solids	0.0
DUP_OF:		DUP_OF:		DUP_OF:	
Parameter	Result	Lab	Val	Qual	Code
LEAD	416				
Parameter	Result	Lab	Val	Qual	Code
LEAD	99.9				
Parameter	Result	Lab	Val	Qual	Code
LEAD	158				

PROJ_NO: 00583

SDG: CTO056-4 MEDIA: WATER DATA FRACTION: M

PEN21GW1502		PEN21GW1602		PEN21GW1702	
nsample	5/7/2007	nsample	5/7/2007	nsample	5/7/2007
samp_date	SA2141-007	samp_date	SA2141-012	samp_date	SA2141-016
lab_id	NM	lab_id	NM	lab_id	NM
qc_type	UG/L	qc_type	UG/L	qc_type	UG/L
units	0.0	units	0.0	units	0.0
Pct_Solids		Pct_Solids		Pct_Solids	
DUP_OF:		DUP_OF:		DUP_OF:	
Parameter	Result	Parameter	Result	Parameter	Result
34	27.9		98.2		
Val	Qual	Val	Qual	Val	Qual
Code	Code	Code	Code	Code	Code
LEAD		LEAD		LEAD	

PROJ_NO: 00583

SDG: CTO056-4 MEDIA: WATER DATA FRACTION: M

nsample	PEN21GW1802	nsample	PEN21GW2102	nsample	PEN21GW2302
samp_date	5/7/2007	samp_date	5/7/2007	samp_date	5/7/2007
lab_id	SA2141-014	lab_id	SA2141-010	lab_id	SA2141-011
qc_type	NM	qc_type	NM	qc_type	NM
units	UG/L	units	UG/L	units	UG/L
Pct_Solids	0.0	Pct_Solids	0.0	Pct_Solids	0.0
DUP_OF:		DUP_OF:		DUP_OF:	
Parameter	Result	Lab	Val	Qual	Code
LEAD	67.6				
Parameter	Result	Lab	Val	Qual	Code
LEAD	71.7				
Parameter	Result	Lab	Val	Qual	Code
LEAD	120				

PROJ_NO: 00583

SDG: CTO056-4 MEDIA: WATER DATA FRACTION: M

nsample		PEN21GW4102		PEN21GW4202		PEN21GW4403	
samp_date	5/7/2007	samp_date	5/7/2007	samp_date	5/7/2007	samp_date	5/7/2007
lab_id	SA2141-017	lab_id	SA2141-015	lab_id	SA2141-015	lab_id	SA2141-006
qc_type	NM	qc_type	NM	qc_type	NM	qc_type	NM
units	UG/L	units	UG/L	units	UG/L	units	UG/L
Pct_Solids	0.0	Pct_Solids	0.0	Pct_Solids	0.0	Pct_Solids	0.0
DUP_OF:		DUP_OF:		DUP_OF:		DUP_OF:	
Parameter		Parameter		Parameter		Parameter	
LEAD	20.9	LEAD	9.1	LEAD	7.9	LEAD	
Lab Result	20.9	Lab Result	9.1	Lab Result	7.9	Lab Result	
Val Qual		Val Qual		Val Qual		Val Qual	
Qual Code		Qual Code		Qual Code		Qual Code	

APPENDIX B

RESULTS AS REPORTED BY THE LABORATORY

Report of Analytical Results

Client: Tetra Tech NUS, Inc
 Project: CTO 056 NAS Pensacola
 PO No:
 Sample Date: 05/06/07
 Received Date: 05/08/07
 Extraction Date:
 Analysis Date: 18-MAY-2007 13:15
 Report Date: 05/21/2007
 Matrix: WATER
 % Solids: NA

Lab ID: SA2141-2
 Client ID: DP14W 15-19
 SDG: CTO056-4
 Extracted by:
 Extraction Method: SW846 5030
 Analyst: SKT
 Analysis Method: SW846 8260B
 Lab Prep Batch: WG39068
 Units: ug/l

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
108-88-3	Toluene	U	0.4	1.0	1	1	0.4
71-43-2	Benzene	U	0.5	1.0	1	1	0.5
100-41-4	Ethylbenzene	U	0.3	1.0	1	1	0.3
	m+p-Xylenes		3	1.0	2	2	1.0
95-47-6	o-Xylene	U	0.4	1.0	1	1	0.4
1330-20-7	Xylenes (total)		3	1.0	3	3	1
1868-53-7	Dibromofluoromethane		83%				
17060-07-0	1,2-Dichloroethane-D4		78%				
2037-26-5	Toluene-D8		86%				
460-00-4	P-Bromofluorobenzene		87%				

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Report of Analytical Results

Client: Tetra Tech NUS, Inc
 Project: CTO 056 NAS Pensacola
 PO No:
 Sample Date: 05/06/07
 Received Date: 05/08/07
 Extraction Date:
 Analysis Date: 18-MAY-2007 15:19
 Report Date: 05/21/2007
 Matrix: WATER
 % Solids: NA

Lab ID: SA2141-3
 Client ID: DP14W 26-30
 SDG: CTO056-4
 Extracted by:
 Extraction Method: SW846 5030
 Analyst: SKT
 Analysis Method: SW846 8260B
 Lab Prep Batch: WG39068
 Units: ug/l

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
108-88-3	Toluene	U	0.4	1.0	1	1	0.4
71-43-2	Benzene	U	0.5	1.0	1	1	0.5
100-41-4	Ethylbenzene	I	0.6	1.0	1	1	0.3
	m+p-Xylenes		9	1.0	2	2	1.0
95-47-6	o-Xylene	U	0.4	1.0	1	1	0.4
1330-20-7	Xylenes (total)		9	1.0	3	3	1
1868-53-7	Dibromofluoromethane		86%				
17060-07-0	1,2-Dichloroethane-D4		80%				
2037-26-5	Toluene-D8		87%				
460-00-4	P-Bromofluorobenzene		87%				

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Report of Analytical Results

Client: Tetra Tech NUS, Inc
 Project: CTO 056 NAS Pensacola
 PO NO:
 Sample Date: 05/05/07
 Received Date: 05/08/07
 Extraction Date:
 Analysis Date: 18-MAY-2007 13:46
 Report Date: 05/21/2007
 Matrix: WATER
 % Solids: NA

Lab ID: SA2141-5
 Client ID: DP38W 18-22
 SDG: CTO056-4
 Extracted by:
 Extraction Method: SW846 5030
 Analyst: SKT
 Analysis Method: SW846 8260B
 Lab Prep Batch: WG39068
 Units: ug/l

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
108-88-3	Toluene	U	0.4	1.0	1	1	0.4
71-43-2	Benzene	U	0.5	1.0	1	1	0.5
100-41-4	Ethylbenzene	U	0.3	1.0	1	1	0.3
	m+p-Xylenes	U	1.0	1.0	2	2	1.0
95-47-6	o-Xylene	U	0.4	1.0	1	1	0.4
1330-20-7	Xylenes (total)	U	1	1.0	3	3	1
1868-53-7	Dibromofluoromethane		83%				
17060-07-0	1,2-Dichloroethane-D4		80%				
2037-26-5	Toluene-D8		86%				
460-00-4	P-Bromofluorobenzene		85%				

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Report of Analytical Results

Client: Tetra Tech NUS, Inc
 Project: CTO 056 NAS Pensacola
 PO No:
 Sample Date: 05/05/07
 Received Date: 05/08/07
 Extraction Date:
 Analysis Date: 18-MAY-2007 14:17
 Report Date: 05/21/2007
 Matrix: WATER
 % Solids: NA

Lab ID: SA2141-1
 Client ID: DP38W 26-30
 SDG: CTO056-4
 Extracted by:
 Extraction Method: SW846 5030
 Analyst: SKT
 Analysis Method: SW846 8260B
 Lab Prep Batch: WG39068
 Units: ug/l

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
108-88-3	Toluene	U	0.4	1.0	1	1	0.4
71-43-2	Benzene	U	0.5	1.0	1	1	0.5
100-41-4	Ethylbenzene	U	0.3	1.0	1	1	0.3
	m+p-Xylenes	U	1.0	1.0	2	2	1.0
95-47-6	o-Xylene	U	0.4	1.0	1	1	0.4
1330-20-7	Xylenes (total)	U	1	1.0	3	3	1
1868-53-7	Dibromofluoromethane		86%				
17060-07-0	1,2-Dichloroethane-D4		81%				
2037-26-5	Toluene-D8		85%				
460-00-4	P-Bromofluorobenzene		86%				

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Report of Analytical Results

Client: Tetra Tech NUS, Inc
 Project: CTO 056 NAS Pensacola
 PO No:
 Sample Date: 05/06/07
 Received Date: 05/08/07
 Extraction Date:
 Analysis Date: 18-MAY-2007 14:48
 Report Date: 05/21/2007
 Matrix: WATER
 % Solids: NA

Lab ID: SA2141-4
 Client ID: DP39W 10-14
 SDG: CTO056-4
 Extracted by:
 Extraction Method: SW846 5030
 Analyst: SKT
 Analysis Method: SW846 8260B
 Lab Prep Batch: WG39068
 Units: ug/l

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
108-88-3	Toluene	I	0.6	1.0	1	1	0.4
71-43-2	Benzene	U	0.5	1.0	1	1	0.5
100-41-4	Ethylbenzene		29	1.0	1	1	0.3
	m+p-Xylenes		59	1.0	2	2	1.0
95-47-6	o-Xylene		2	1.0	1	1	0.4
1330-20-7	Xylenes (total)		61	1.0	3	3	1
1868-53-7	Dibromofluoromethane		87%				
17060-07-0	1,2-Dichloroethane-D4		82%				
2037-26-5	Toluene-D8		88%				
460-00-4	P-Bromofluorobenzene		88%				

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Report of Analytical Results

Client: Tetra Tech NUS, Inc
 Project: CTO 056 NAS Pensacola
 PO No:
 Sample Date: 04/25/07
 Received Date: 05/08/07
 Extraction Date:
 Analysis Date: 18-MAY-2007 10:10
 Report Date: 05/21/2007
 Matrix: WATER
 % Solids: NA

Lab ID: SA2141-18
 Client ID: TB 050707
 SDG: CTO056-4
 Extracted by:
 Extraction Method: SW846 5030
 Analyst: SKT
 Analysis Method: SW846 8260B
 Lab Prep Batch: WG39068
 Units: ug/l

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
108-88-3	Toluene	U	0.4	1.0	1	1	0.4
71-43-2	Benzene	U	0.5	1.0	1	1	0.5
100-41-4	Ethylbenzene	U	0.3	1.0	1	1	0.3
	m+p-Xylenes	U	1.0	1.0	2	2	1.0
95-47-6	o-Xylene	U	0.4	1.0	1	1	0.4
1330-20-7	Xylenes (total)	U	1	1.0	3	3	1
1868-53-7	Dibromofluoromethane		84%				
17060-07-0	1,2-Dichloroethane-D4		81%				
2037-26-5	Toluene-D8		87%				
460-00-4	P-Bromofluorobenzene		88%				

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Report of Analytical Results

Client: Tetra Tech NUS, Inc
 Project: CTO 056 NAS Pensacola
 PO No:
 Sample Date: 05/06/07
 Received Date: 05/08/07
 Extraction Date: 05/10/07
 Analysis Date: 17-MAY-2007 13:25
 Report Date: 05/18/2007
 Matrix: WATER
 % Solids: NA

Lab ID: SA2141-2
 Client ID: DP14W 15-19
 SDG: CTO056-4
 Extracted by: GN
 Extraction Method: SW846 3510
 Analyst: JCG
 Analysis Method: SW846 M8270C
 Lab Prep Batch: WG38744
 Units: ug/L

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
91-20-3	Naphthalene	U	0.1	1.0	0.2	0.2	0.1
91-57-6	2-Methylnaphthalene	U	0.07	1.0	0.2	0.2	0.07
90-12-0	1-Methylnaphthalene	U	0.2	1.0	0.2	0.2	0.2
208-96-8	Acenaphthylene	U	0.06	1.0	0.2	0.2	0.06
83-32-9	Acenaphthene	U	0.07	1.0	0.2	0.2	0.07
86-73-7	Fluorene	U	0.07	1.0	0.2	0.2	0.07
85-01-8	Phenanthrene	U	0.05	1.0	0.2	0.2	0.05
120-12-7	Anthracene	U	0.06	1.0	0.2	0.2	0.06
206-44-0	Fluoranthene	U	0.06	1.0	0.2	0.2	0.06
129-00-0	Pyrene	U	0.06	1.0	0.2	0.2	0.06
56-55-3	Benzo(a)anthracene	U	0.07	1.0	0.2	0.2	0.07
218-01-9	Chrysene	U	0.07	1.0	0.2	0.2	0.07
205-99-2	Benzo(b)fluoranthene	U	0.08	1.0	0.2	0.2	0.08
207-08-9	Benzo(k)fluoranthene	U	0.1	1.0	0.2	0.2	0.1
50-32-8	Benzo(a)pyrene	U	0.05	1.0	0.2	0.2	0.05
193-39-5	Indeno(1,2,3-cd)pyrene	U	0.1	1.0	0.2	0.2	0.1
191-24-2	Benzo(g,h,i)perylene	U	0.09	1.0	0.2	0.2	0.09
53-70-3	Dibenzo(a,h)anthracene	U	0.1	1.0	0.2	0.2	0.1
7297-45-2	2-Methylnaphthalene-d10		62%				
81103-79-9	Fluorene-d10		60%				
1718-52-1	Pyrene-d10		97%				

Report of Analytical Results

Client: Tetra Tech NUS, Inc
 Project: CTO 056 NAS Pensacola
 PO No:
 Sample Date: 05/06/07
 Received Date: 05/08/07
 Extraction Date: 05/10/07
 Analysis Date: 17-MAY-2007 14:07
 Report Date: 05/18/2007
 Matrix: WATER
 % Solids: NA

Lab ID: SA2141-3
 Client ID: DP14W 26-30
 SDG: CTO056-4
 Extracted by: GN
 Extraction Method: SW846 3510
 Analyst: JCG
 Analysis Method: SW846 M8270C
 Lab Prep Batch: WG38744
 Units: ug/L

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
91-20-3	Naphthalene		0.2	1.0	0.2	0.2	0.1
91-57-6	2-Methylnaphthalene		0.3	1.0	0.2	0.2	0.07
90-12-0	1-Methylnaphthalene	U	0.2	1.0	0.2	0.2	0.2
208-96-8	Acenaphthylene	U	0.06	1.0	0.2	0.2	0.06
83-32-9	Acenaphthene	U	0.07	1.0	0.2	0.2	0.07
86-73-7	Fluorene	U	0.07	1.0	0.2	0.2	0.07
85-01-8	Phenanthrene	I	0.2	1.0	0.2	0.2	0.05
120-12-7	Anthracene	U	0.06	1.0	0.2	0.2	0.06
206-44-0	Fluoranthene	I	0.2	1.0	0.2	0.2	0.06
129-00-0	Pyrene	U	0.06	1.0	0.2	0.2	0.06
56-55-3	Benzo(a)anthracene	U	0.07	1.0	0.2	0.2	0.07
218-01-9	Chrysene	U	0.07	1.0	0.2	0.2	0.07
205-99-2	Benzo(b)fluoranthene	U	0.08	1.0	0.2	0.2	0.08
207-08-9	Benzo(k)fluoranthene	U	0.1	1.0	0.2	0.2	0.1
50-32-8	Benzo(a)pyrene	U	0.05	1.0	0.2	0.2	0.05
193-39-5	Indeno(1,2,3-cd)pyrene	U	0.1	1.0	0.2	0.2	0.1
191-24-2	Benzo(g,h,i)perylene	U	0.09	1.0	0.2	0.2	0.09
53-70-3	Dibenzo(a,h)anthracene	U	0.1	1.0	0.2	0.2	0.1
7297-45-2	2-Methylnaphthalene-d10		86%				
81103-79-9	Fluorene-d10		80%				
1718-52-1	Pyrene-d10		94%				

Report of Analytical Results

Client: Tetra Tech NUS, Inc
 Project: CTO 056 NAS Pensacola
 PO No:
 Sample Date: 05/05/07
 Received Date: 05/08/07
 Extraction Date: 05/10/07
 Analysis Date: 17-MAY-2007 15:32
 Report Date: 05/18/2007
 Matrix: WATER
 % Solids: NA

Lab ID: SA2141-5
 Client ID: DP38W 18-22
 SDG: CTO056-4
 Extracted by: GN
 Extraction Method: SW846 3510
 Analyst: JCG
 Analysis Method: SW846 M8270C
 Lab Prep Batch: WG38744
 Units: ug/L

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
91-20-3	Naphthalene		0.3	1.0	0.2	0.2	0.1
91-57-6	2-Methylnaphthalene		0.8	1.0	0.2	0.2	0.07
90-12-0	1-Methylnaphthalene		0.8	1.0	0.2	0.2	0.1
208-96-8	Acenaphthylene	U	0.06	1.0	0.2	0.2	0.06
83-32-9	Acenaphthene	U	0.07	1.0	0.2	0.2	0.07
86-73-7	Fluorene	U	0.07	1.0	0.2	0.2	0.07
85-01-8	Phenanthrene	U	0.05	1.0	0.2	0.2	0.05
120-12-7	Anthracene	U	0.06	1.0	0.2	0.2	0.06
206-44-0	Fluoranthene	U	0.06	1.0	0.2	0.2	0.06
129-00-0	Pyrene	U	0.06	1.0	0.2	0.2	0.06
56-55-3	Benzo (a) anthracene	U	0.07	1.0	0.2	0.2	0.07
218-01-9	Chrysene	U	0.07	1.0	0.2	0.2	0.07
205-99-2	Benzo (b) fluoranthene	U	0.08	1.0	0.2	0.2	0.08
207-08-9	Benzo (k) fluoranthene	U	0.1	1.0	0.2	0.2	0.1
50-32-8	Benzo (a) pyrene	U	0.05	1.0	0.2	0.2	0.05
193-39-5	Indeno (1,2,3-cd) pyrene	U	0.10	1.0	0.2	0.2	0.10
191-24-2	Benzo (g,h,i) perylene	U	0.09	1.0	0.2	0.2	0.09
53-70-3	Dibenzo (a,h) anthracene	U	0.1	1.0	0.2	0.2	0.1
7297-45-2	2-Methylnaphthalene-d10		86%				
81103-79-9	Fluorene-d10		77%				
1718-52-1	Pyrene-d10		112%				

Report of Analytical Results

Client: Tetra Tech NUS, Inc
 Project: CTO 056 NAS Pensacola
 PO No:
 Sample Date: 05/05/07
 Received Date: 05/08/07
 Extraction Date: 05/10/07
 Analysis Date: 17-MAY-2007 12:42
 Report Date: 05/18/2007
 Matrix: WATER
 % Solids: NA

Lab ID: SA2141-1
 Client ID: DP38W 26-30
 SDG: CTO056-4
 Extracted by: GN
 Extraction Method: SW846 3510
 Analyst: JCG
 Analysis Method: SW846 M8270C
 Lab Prep Batch: WG38744
 Units: ug/L

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
91-20-3	Naphthalene		0.9	1.0	0.2	0.2	0.1
91-57-6	2-Methylnaphthalene		2	1.0	0.2	0.2	0.07
90-12-0	1-Methylnaphthalene		2	1.0	0.2	0.2	0.1
208-96-8	Acenaphthylene	U	0.06	1.0	0.2	0.2	0.06
83-32-9	Acenaphthene	U	0.07	1.0	0.2	0.2	0.07
86-73-7	Fluorene	U	0.07	1.0	0.2	0.2	0.07
85-01-8	Phenanthrene	U	0.05	1.0	0.2	0.2	0.05
120-12-7	Anthracene	U	0.06	1.0	0.2	0.2	0.06
206-44-0	Fluoranthene	U	0.06	1.0	0.2	0.2	0.06
129-00-0	Pyrene	U	0.06	1.0	0.2	0.2	0.06
56-55-3	Benzo(a)anthracene	U	0.07	1.0	0.2	0.2	0.07
218-01-9	Chrysene	U	0.07	1.0	0.2	0.2	0.07
205-99-2	Benzo(b)fluoranthene	U	0.08	1.0	0.2	0.2	0.08
207-08-9	Benzo(k)fluoranthene	U	0.1	1.0	0.2	0.2	0.1
50-32-8	Benzo(a)pyrene	U	0.05	1.0	0.2	0.2	0.05
193-39-5	Indeno(1,2,3-cd)pyrene	U	0.10	1.0	0.2	0.2	0.10
191-24-2	Benzo(g,h,i)perylene	U	0.08	1.0	0.2	0.2	0.08
53-70-3	Dibenzo(a,h)anthracene	U	0.1	1.0	0.2	0.2	0.1
7297-45-2	2-Methylnaphthalene-d10		66%				
81103-79-9	Fluorene-d10		70%				
1718-52-1	Pyrene-d10		96%				

Report of Analytical Results

Client: Tetra Tech NUS, Inc
 Project: CTO 056 NAS Pensacola
 PO No:
 Sample Date: 05/06/07
 Received Date: 05/08/07
 Extraction Date: 05/10/07
 Analysis Date: 17-MAY-2007 14:50
 Report Date: 05/18/2007
 Matrix: WATER
 % Solids: NA

Lab ID: SA2141-4
 Client ID: DP39W 10-14
 SDG: CTO056-4
 Extracted by: GN
 Extraction Method: SW846 3510
 Analyst: JCG
 Analysis Method: SW846 M8270C
 Lab Prep Batch: WG38744
 Units: ug/L

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
91-20-3	Naphthalene	L	6	1.0	0.2	0.2	0.1
91-57-6	2-Methylnaphthalene	L	6	1.0	0.2	0.2	0.07
90-12-0	1-Methylnaphthalene	L	18	1.0	0.2	0.2	0.2
208-96-8	Acenaphthylene	U	0.06	1.0	0.2	0.2	0.06
83-32-9	Acenaphthene		0.2	1.0	0.2	0.2	0.07
86-73-7	Fluorene		0.3	1.0	0.2	0.2	0.07
85-01-8	Phenanthrene	U	0.05	1.0	0.2	0.2	0.05
120-12-7	Anthracene	U	0.06	1.0	0.2	0.2	0.06
206-44-0	Fluoranthene		0.5	1.0	0.2	0.2	0.06
129-00-0	Pyrene		0.3	1.0	0.2	0.2	0.06
56-55-3	Benzo (a) anthracene	U	0.07	1.0	0.2	0.2	0.07
218-01-9	Chrysene	U	0.07	1.0	0.2	0.2	0.07
205-99-2	Benzo (b) fluoranthene	U	0.08	1.0	0.2	0.2	0.08
207-08-9	Benzo (k) fluoranthene	U	0.1	1.0	0.2	0.2	0.1
50-32-8	Benzo (a) pyrene	U	0.05	1.0	0.2	0.2	0.05
193-39-5	Indeno (1,2,3-cd) pyrene	U	0.1	1.0	0.2	0.2	0.1
191-24-2	Benzo (g,h,i) perylene	U	0.09	1.0	0.2	0.2	0.09
53-70-3	Dibenzo (a,h) anthracene	U	0.1	1.0	0.2	0.2	0.1
7297-45-2	2-Methylnaphthalene-d10		67%				
81103-79-9	Fluorene-d10		64%				
1718-52-1	Pyrene-d10		88%				

Report of Analytical Results

Client: Tetra Tech NUS, Inc
 Project: CTO 056 NAS Pensacola
 PO No:
 Sample Date: 05/06/07
 Received Date: 05/08/07
 Extraction Date: 05/10/07
 Analysis Date: 18-MAY-2007 10:55
 Report Date: 05/18/2007
 Matrix: WATER
 % Solids: NA

Lab ID: SA2141-4DL
 Client ID: DP39W 10-14
 SDG: CTO056-4
 Extracted by: GN
 Extraction Method: SW846 3510
 Analyst: JCG
 Analysis Method: SW846 M8270C
 Lab Prep Batch: WG38744
 Units: ug/L

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
91-20-3	Naphthalene		7	3.0	0.2	0.6	0.4
91-57-6	2-Methylnaphthalene		7	3.0	0.2	0.6	0.2
90-12-0	1-Methylnaphthalene		13	3.0	0.2	0.6	0.4
208-96-8	Acenaphthylene	U	0.2	3.0	0.2	0.6	0.2
83-32-9	Acenaphthene	I	0.2	3.0	0.2	0.6	0.2
86-73-7	Fluorene	I	0.3	3.0	0.2	0.6	0.2
85-01-8	Phenanthrene	U	0.2	3.0	0.2	0.6	0.2
120-12-7	Anthracene	U	0.2	3.0	0.2	0.6	0.2
206-44-0	Fluoranthene		0.8	3.0	0.2	0.6	0.2
129-00-0	Pyrene	I	0.3	3.0	0.2	0.6	0.2
56-55-3	Benzo(a)anthracene	U	0.2	3.0	0.2	0.6	0.2
218-01-9	Chrysene	U	0.2	3.0	0.2	0.6	0.2
205-99-2	Benzo(b)fluoranthene	U	0.2	3.0	0.2	0.6	0.2
207-08-9	Benzo(k)fluoranthene	U	0.3	3.0	0.2	0.6	0.3
50-32-8	Benzo(a)pyrene	U	0.2	3.0	0.2	0.6	0.2
193-39-5	Indeno(1,2,3-cd)pyrene	U	0.3	3.0	0.2	0.6	0.3
191-24-2	Benzo(g,h,i)perylene	U	0.3	3.0	0.2	0.6	0.3
53-70-3	Dibenzo(a,h)anthracene	U	0.4	3.0	0.2	0.6	0.4
7297-45-2	2-Methylnaphthalene-d10		66%				
81103-79-9	Fluorene-d10		76%				
1718-52-1	Pyrene-d10		80%				

Report of Analytical Results

Client: Tetra Tech NUS, Inc
 Project: CTO 056 NAS Pensacola
 PO No:
 Sample Date: 05/06/07
 Received Date: 05/08/07
 Extraction Date: 05/09/07
 Analysis Date: 11-MAY-2007 18:10
 Report Date: 05/14/2007
 Matrix: WATER
 % Solids: NA

Lab ID: SA2141-2
 Client ID: DP14W 15-19
 SDG: CTO056-4
 Extracted by: KF
 Extraction Method: SW846 3510
 Analyst: TR
 Analysis Method: SW846 M8015
 Lab Prep Batch: WG38708
 Units: ug/L

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
	Petroleum Range Organics	U	310	1.0	500	530	310
	n-Triacontane-D62		107%				
	O-Terphenyl		103%				

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REPORT OF ANALYTICAL RESULTS

Client: Tetra Tech NUS, Inc
 Project: CTO 056 NAS Pensacola
 PO No:
 Sample Date: 05/06/07
 Received Date: 05/08/07
 Extraction Date: 05/09/07
 Analysis Date: 11-MAY-2007 19:26
 Report Date: 05/14/2007
 Matrix: WATER
 % Solids: NA

Lab ID: SA2141-3
 Client ID: DP14W 26-30
 SDG: CTO056-4
 Extracted by: KF
 Extraction Method: SW846 3510
 Analyst: TR
 Analysis Method: SW846 M8015
 Lab Prep Batch: WG38708
 Units: ug/L

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
	Petroleum Range Organics		730	1.0	500	500	290
	n-Triacontane-D62		95%				
	O-Terphenyl		90%				

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REPORT OF ANALYTICAL RESULTS

Client: Tetra Tech NUS, Inc
Project: CTO 056 NAS Pensacola
PO No:
Sample Date: 05/05/07
Received Date: 05/08/07
Extraction Date: 05/09/07
Analysis Date: 11-MAY-2007 21:57
Report Date: 05/14/2007
Matrix: WATER
% Solids: NA

Lab ID: SA2141-5
Client ID: DP38W 18-22
SDG: CTO056-4
Extracted by: KF
Extraction Method: SW846 3510
Analyst: TR
Analysis Method: SW846 M8015
Lab Prep Batch: WG38708
Units: ug/L

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
	Petroleum Range Organics	U	280	1.0	500	500	280
	n-Triacontane-D62		94%				
	O-Terphenyl		92%				

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Report of Analytical Results

Client: Tetra Tech NUS, Inc
 Project: CTO 056 NAS Pensacola
 PO No:
 Sample Date: 05/05/07
 Received Date: 05/08/07
 Extraction Date: 05/09/07
 Analysis Date: 11-MAY-2007 16:56
 Report Date: 05/14/2007
 Matrix: WATER
 % Solids: NA

Lab ID: SA2141-1
 Client ID: DP38W 26-30
 SDG: CTO056-4
 Extracted by: KF
 Extraction Method: SW846 3510
 Analyst: TR
 Analysis Method: SW846 M8015
 Lab Prep Batch: WG38708
 Units: ug/L

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
	Petroleum Range Organics	U	280	1.0	500	500	280
	n-Triacontane-D62		109%				
	O-Terphenyl		105%				

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REPORT OF ANALYTICAL RESULTS

Client: Tetra Tech NUS, Inc
 Project: CTO 056 NAS Pensacola
 PO No:
 Sample Date: 05/06/07
 Received Date: 05/08/07
 Extraction Date: 05/09/07
 Analysis Date: 11-MAY-2007 20:41
 Report Date: 05/14/2007
 Matrix: WATER
 % Solids: NA

Lab ID: SA2141-4
 Client ID: DP39W 10-14
 SDG: CTO056-4
 Extracted by: KF
 Extraction Method: SW846 3510
 Analyst: TR
 Analysis Method: SW846 M8015
 Lab Prep Batch: WG38708
 Units: ug/L

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
	Petroleum Range Organics		1300	1.0	500	530	310
	n-Triacontane-D62		93%				
	O-Terphenyl		91%				

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INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services

Client Field ID: DP14W 15-19

Matrix: WATER

SDG Name: CTO056-4

Percent Solids: 0.00

Lab Sample ID: SA2141-002

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	Adjusted PQL	Adjusted IDL
7439-92-1	LEAD, TOTAL	3.7	I		P	1	5.0	0.91

Bottle ID: H

Comments:

FORM I - IN

Sample Data Summary A0000058

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services

Client Field ID: DP14W 26-30

Matrix: WATER

SDG Name: CTO056-4

Percent Solids: 0.00

Lab Sample ID: SA2141-003

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	Adjusted PQL	Adjusted IDL
7439-92-1	LEAD, TOTAL	34.4			P	1	5.0	0.91

Bottle ID: G

Comments:

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Sample Data Summary A0000059

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services

Client Field ID: DP39W 10-14

Matrix: WATER

SDG Name: CTO056-4

Percent Solids: 0.00

Lab Sample ID: SA2141-004

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	Adjusted PQL	Adjusted IDL
7439-92-1	LEAD, TOTAL	48.1			P	1	5.0	0.91

Bottle ID: H

Comments:

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Sample Data Summary A0000060

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services

Client Field ID: PEN21GW1102

Matrix: WATER

SDG Name: CTO056-4

Percent Solids: 0.00

Lab Sample ID: SA2141-009

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	Adjusted PQL	Adjusted IDL
7439-92-1	LEAD, TOTAL	416			P	1	5.0	0.91

Bottle ID: A

Comments:

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Sample Data Summary A0000064

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services

Client Field ID: PEN21GW1202

Matrix: WATER

SDG Name: CTO056-4

Percent Solids: 0.00

Lab Sample ID: SA2141-008

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	Adjusted PQL	Adjusted IDL
7439-92-1	LEAD, TOTAL	99.9			P	1	5.0	0.91

Bottle ID: A

Comments:

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Sample Data Summary A0000063

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services

Client Field ID: PEN21GW1302

Matrix: WATER

SDG Name: CTO056-4

Percent Solids: 0.00

Lab Sample ID: SA2141-013

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	Adjusted PQL	Adjusted IDL
7439-92-1	LEAD, TOTAL	158			P	1	5.0	0.91

Bottle ID: A

Comments:

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Sample Data Summary A0000068

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services

Client Field ID: PEN21GW1502

Matrix: WATER

SDG Name: CTO056-4

Percent Solids: 0.00

Lab Sample ID: SA2141-007

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	Adjusted PQL	Adjusted IDL
7439-92-1	LEAD, TOTAL	34.0			P	1	5.0	0.91

Bottle ID: A

Comments:

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Sample Data Summary A0000062

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services

Client Field ID: PEN21GW1602

Matrix: WATER

SDG Name: CTO056-4

Percent Solids: 0.00

Lab Sample ID: SA2141-012

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	Adjusted PQL	Adjusted IDL
7439-92-1	LEAD, TOTAL	27.9			P	1	5.0	0.91

Bottle ID: A

Comments:

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Sample Data Summary A0000067

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services

Client Field ID: PEN21GW1702

Matrix: WATER

SDG Name: CTO056-4

Percent Solids: 0.00

Lab Sample ID: SA2141-016

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	Adjusted PQL	Adjusted IDL
7439-92-1	LEAD, TOTAL	98.2			P	1	5.0	0.91

Bottle ID: A

Comments:

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Sample Data Summary A0000071

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services

Client Field ID: PEN21GW1802

Matrix: WATER

SDG Name: CTO056-4

Percent Solids: 0.00

Lab Sample ID: SA2141-014

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	Adjusted PQL	Adjusted IDL
7439-92-1	LEAD, TOTAL	67.6			P	1	5.0	0.91

Bottle ID: A

Comments:

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Sample Data Summary A0000069

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services

Client Field ID: PEN21GW2102

Matrix: WATER

SDG Name: CTO056-4

Percent Solids: 0.00

Lab Sample ID: SA2141-010

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	Adjusted PQL	Adjusted IDL
7439-92-1	LEAD, TOTAL	71.7			P	1	5.0	0.91

Bottle ID: A

Comments:

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Sample Data Summary A0000065

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services

Client Field ID: PEN21GW2302

Matrix: WATER

SDG Name: CTO056-4

Percent Solids: 0.00

Lab Sample ID: SA2141-011

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	Adjusted PQL	Adjusted IDL
7439-92-1	LEAD, TOTAL	120			P	1	5.0	0.91

Bottle ID: A

Comments:

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Sample Data Summary A0000066

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services

Client Field ID: PEN21GW4102

Matrix: WATER

SDG Name: CTO056-4

Percent Solids: 0.00

Lab Sample ID: SA2141-017

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	Adjusted PQL	Adjusted IDL
7439-92-1	LEAD, TOTAL	20.9			P	1	5.0	0.91

Bottle ID: A

Comments:

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Sample Data Summary A0000072

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services

Client Field ID: PEN21GW4202

Matrix: WATER

SDG Name: CTO056-4

Percent Solids: 0.00

Lab Sample ID: SA2141-015

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	Adjusted PQL	Adjusted IDL
7439-92-1	LEAD, TOTAL	9.1			P	1	5.0	0.91

Bottle ID: A

Comments:

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Sample Data Summary A0000070

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services

Client Field ID: PEN21GW4403

Matrix: WATER

SDG Name: CTO056-4

Percent Solids: 0.00

Lab Sample ID: SA2141-006

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	Adjusted PQL	Adjusted IDL
7439-92-1	LEAD, TOTAL	7.9			P	1	5.0	0.91

Bottle ID: A

Comments:

FORM I - IN

Sample Data Summary A0000061



Tetra Tech NUS

INTERNAL CORRESPONDENCE

TO: G. WALKER **DATE:** JULY 13, 2007
FROM: MATTHEW D. KRAUS **COPIES:** DV FILE
SUBJECT: INORGANIC DATA VALIDATION – LEAD
NAS PENSACOLA – CTO 056
SDG – CTO056-5
SAMPLES: 15/Aqueous/

PEN21GW0402	PEN21GW1902	PEN21GW2002
PEN21GW2002D	PEN21GW2402	PEN21GW2502
PEN21GW4304	PEN21GW5302	PEN21GW5302D
PEN21GW6701	PEN21GW6801	PEN21GW6901
PEN21GW7001	PEN21GW7101	PEN21GW7201

Overview

The sample set for NAS Pensacola, CTO 056, SDG CTO056-5, consists of fifteen aqueous environmental samples. Two field duplicate pairs (PEN21GW2002 / PEN21GW2002D) and (PEN21GW5302 / PEN21GW5302D) are included in this SDG.

All samples were collected by Tetra Tech NUS on May 8-9, 2007 and analyzed for total lead by Katahdin Analytical Services. Lead analyses were conducted using SW-846 method 6010B and Inductively Coupled Plasma – Atomic Emission Spectrometry (ICP-AES) methodology.

Data were evaluated based on the following parameters:

- * • Data Completeness
- * • Holding Times
- * • Calibration Recoveries
- Laboratory Method/Preparation Blank Analyses
- * • Field Duplicate Precision
- * • Detection Limits

- * - All quality control criteria were met for this parameter.

Laboratory Method/Preparation Blank Analyses

The following contaminant was detected in the laboratory method/preparation blanks at the following maximum concentration:

<u>Analyte</u>	<u>Maximum</u>	<u>Action</u>
Lead ⁽¹⁾	<u>Concentration (µg/L)</u>	<u>Level (µg/L)</u>
	0.932	4.66

⁽¹⁾ Maximum concentration present in a laboratory method blank affecting all samples.

TO: WALKER, G. – PAGE 2
DATE: July 13, 2007

An action level of five times the maximum contaminant level has been used to evaluate sample data for blank contamination. Sample aliquot and dilution factors, if applicable, were taken into consideration when evaluating for blank contamination. Positive results less than the blank action level reported for the above analyte were qualified "U" as a result of laboratory blank contamination. Lead was qualified due to laboratory blank contamination.

Notes

The chain-of-custody listed seven additional samples that were to be analyzed for lead; however, those samples were not analyzed for lead. The Sample Receipt Condition Report for cooler 1 of 4 states that the lead analyses for those samples were cancelled on May 10, 2007 by J.D. Spalding.

Executive Summary

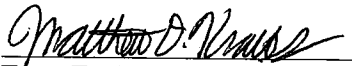
Laboratory Performance: Lead was qualified due to laboratory blank contamination.

Other Factors Affecting Data Quality: None.

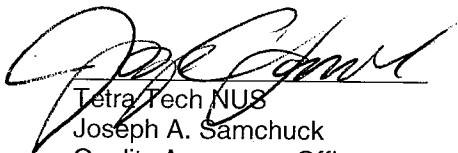
The data for these analyses were reviewed with reference to the "National Functional Guidelines for Inorganic Data Review", October 2004, and the Department of Defense (DoD) document entitled "Quality Systems Manual (QSM) for Environmental Laboratories" (January 2006).

The text of this report has been formulated to address only those problem areas affecting data quality.

"I attest that the data referenced herein were validated according to the agreed upon validation criteria as specified in the DoD QSM and the Quality Assurance Project Plan (QAPP)."



Tetra Tech NUS
Matthew D. Kraus
Environmental Chemist



Tetra Tech NUS
Joseph A. Samchuck
Quality Assurance Officer

Attachments:

1. Appendix A - Qualified Analytical Results
2. Appendix B - Results as reported by the Laboratory
3. Appendix C – Support Documentation

APPENDIX A
QUALIFIED ANALYTICAL RESULTS

Data Validation Qualifier Codes:

- A = Lab Blank Contamination
- B = Field Blank Contamination
- C = Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
- C01 = GC/MS Tuning Noncompliance
- D = MS/MSD Recovery Noncompliance
- E = LCS/LCSD Recovery Noncompliance
- F = Lab Duplicate Imprecision
- G = Field Duplicate Imprecision
- H = Holding Time Exceedance
- I = ICP Serial Dilution Noncompliance
- J = GFAA PDS - GFAA MSA's $r < 0.995$
- K = ICP Interference - includes ICS % R Noncompliance
- L = Instrument Calibration Range Exceedance
- M = Sample Preservation Noncompliance
- N = Internal Standard Noncompliance
- N01 = Internal Standard Recovery Noncompliance Dioxins
- N02 = Recovery Standard Noncompliance Dioxins
- N03 = Clean-up Standard Noncompliance Dioxins
- O = Poor Instrument Performance (e.g. base-line drifting)
- P = Uncertainty near detection limit ($< 2 \times \text{IDL}$ for inorganics and $< \text{CRQL}$ for organics)
- Q = Other problems (can encompass a number of issues; e.g. chromatography, interferences, etc.)
- R = Surrogates Recovery Noncompliance
- S = Pesticide/PCB Resolution
- T = % Breakdown Noncompliance for DDT and Endrin
- U = % Difference between columns/detectors $> 25\%$ for positive results determined via GC/HPLC
- V = Non-linear calibrations; correlation coefficient $r < 0.995$
- W = EMPC result
- X = Signal to noise response drop
- Y = Percent solids $< 30\%$
- Z = Uncertainty at 2 sigma deviation is greater than sample activity

PROJ_NO: 00583

SDG: CTO056-5 MEDIA: WATER DATA FRACTION: M

nsample	PEN21GW0402	nsample	PEN21GW1902	nsample	PEN21GW2002
samp_date	5/8/2007	samp_date	5/9/2007	samp_date	5/9/2007
lab_id	SA2172-009	lab_id	SA2210-003	lab_id	SA2210-001
qc_type	NM	qc_type	NM	qc_type	NM
units	UG/L	units	UG/L	units	UG/L
Pct_Solids	0.0	Pct_Solids	0.0	Pct_Solids	0.0
DUP_OF:		DUP_OF:		DUP_OF:	
Parameter	Val Qual	Parameter	Val Qual	Parameter	Val Qual
LEAD	Result 579	LEAD	Result 18.8	LEAD	Result 43.9
	Qual Code		Qual Code		Qual Code

PROJ_NO: 00583

SDG: CTO056-5 MEDIA: WATER DATA FRACTION: M

nsample	PEN21GW2002D	nsample	PEN21GW2402	nsample	PEN21GW2502		
samp_date	5/9/2007	samp_date	5/9/2007	samp_date	5/9/2007		
lab_id	SA2210-002	lab_id	SA2210-004	lab_id	SA2210-005		
qc_type	NM	qc_type	NM	qc_type	NM		
units	UG/L	units	UG/L	units	UG/L		
Pct_Solids	0.0	Pct_Solids	0.0	Pct_Solids	0.0		
DUP_OF:	PEN21GW2002	DUP_OF:		DUP_OF:			
Parameter	Result	Val	Qual	Parameter	Result	Val	Qual
LEAD	46.2	Qual	Code	LEAD	10.8	Qual	Code

nsample	PEN21GW2002D	nsample	PEN21GW2402	nsample	PEN21GW2502		
samp_date	5/9/2007	samp_date	5/9/2007	samp_date	5/9/2007		
lab_id	SA2210-002	lab_id	SA2210-004	lab_id	SA2210-005		
qc_type	NM	qc_type	NM	qc_type	NM		
units	UG/L	units	UG/L	units	UG/L		
Pct_Solids	0.0	Pct_Solids	0.0	Pct_Solids	0.0		
DUP_OF:	PEN21GW2002	DUP_OF:		DUP_OF:			
Parameter	Result	Val	Qual	Parameter	Result	Val	Qual
LEAD	46.2	Qual	Code	LEAD	10.8	Qual	Code

nsample	PEN21GW2002D	nsample	PEN21GW2402	nsample	PEN21GW2502		
samp_date	5/9/2007	samp_date	5/9/2007	samp_date	5/9/2007		
lab_id	SA2210-002	lab_id	SA2210-004	lab_id	SA2210-005		
qc_type	NM	qc_type	NM	qc_type	NM		
units	UG/L	units	UG/L	units	UG/L		
Pct_Solids	0.0	Pct_Solids	0.0	Pct_Solids	0.0		
DUP_OF:	PEN21GW2002	DUP_OF:		DUP_OF:			
Parameter	Result	Val	Qual	Parameter	Result	Val	Qual
LEAD	46.2	Qual	Code	LEAD	10.8	Qual	Code

PROJ_NO: 00583

SDG: CTO056-5 MEDIA: WATER DATA FRACTION: M

nsample	PEN21GW4304	nsample	PEN21GW5302	nsample	PEN21GW5302D
samp_date	5/9/2007	samp_date	5/9/2007	samp_date	5/9/2007
lab_id	SA2211-004	lab_id	SA2211-001	lab_id	SA2211-002
qc_type	NM	qc_type	NM	qc_type	NM
units	UG/L	units	UG/L	units	UG/L
Pct_Solids	0.0	Pct_Solids	0.0	Pct_Solids	0.0
DUP_OF:		DUP_OF:		DUP_OF:	PEN21GW5302

Parameter	Result	Val	Qual	Parameter	Val	Qual
		Qual	Code		Qual	Code
LEAD	80.8			LEAD	45	

Parameter	Result	Val	Qual	Parameter	Result	Val	Qual
		Qual	Code			Qual	Code
LEAD				LEAD	40.2		

PROJ_NO: 00583

SDG: CTO056-5 MEDIA: WATER DATA FRACTION: M

nsample	PEN21GW6701	nsample	PEN21GW6801	nsample	PEN21GW6901
samp_date	5/9/2007	samp_date	5/9/2007	samp_date	5/9/2007
lab_id	SA2211-003	lab_id	SA2210-009	lab_id	SA2210-007
qc_type	NM	qc_type	NM	qc_type	NM
units	UG/L	units	UG/L	units	UG/L
Pct_Solids	0.0	Pct_Solids	0.0	Pct_Solids	0.0
DUP_OF:		DUP_OF:		DUP_OF:	

Parameter	Result	Val	Qual	Parameter	Result	Val	Qual
LEAD	57.4			LEAD	21.6		

nsample	PEN21GW6701	nsample	PEN21GW6801	nsample	PEN21GW6901
samp_date	5/9/2007	samp_date	5/9/2007	samp_date	5/9/2007
lab_id	SA2211-003	lab_id	SA2210-009	lab_id	SA2210-007
qc_type	NM	qc_type	NM	qc_type	NM
units	UG/L	units	UG/L	units	UG/L
Pct_Solids	0.0	Pct_Solids	0.0	Pct_Solids	0.0
DUP_OF:		DUP_OF:		DUP_OF:	

Parameter	Result	Val	Qual	Parameter	Result	Val	Qual
LEAD	57.4			LEAD	21.6		

PROJ_NO: 00583

SDG: CTO056-5 MEDIA: WATER DATA FRACTION: M

nsample	PEN21GW7001	nsample	PEN21GW7101	nsample	PEN21GW7201
samp_date	5/9/2007	samp_date	5/9/2007	samp_date	5/9/2007
lab_id	SA2210-010	lab_id	SA2210-008	lab_id	SA2210-006
qc_type	NM	qc_type	NM	qc_type	NM
units	UG/L	units	UG/L	units	UG/L
Pct_Solids	0.0	Pct_Solids	0.0	Pct_Solids	0.0
DUP_OF:		DUP_OF:		DUP_OF:	
Parameter		Parameter		Parameter	
Val		Val		Val	
Qual		Qual		Qual	
Code		Code		Code	
LEAD	1	LEAD	2.2	LEAD	6.3
	U		U		
	A		A		

APPENDIX B
RESULTS AS REPORTED BY THE LABORATORY

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services

Client Field ID: PEN21GW0402

Matrix: WATER

SDG Name: CTO056-5

Percent Solids: 0.00

Lab Sample ID: SA2172-009

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	Adjusted PQL	Adjusted IDL
7439-92-1	LEAD, TOTAL	579			P	1	5.0	0.91

Bottle ID: A

Comments:

FORM I - IN

Katahdin Analytical Services 4000005

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services

Client Field ID: PEN21GW1902

Matrix: WATER

SDG Name: CTO056-5

Percent Solids: 0.00

Lab Sample ID: SA2210-003

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	Adjusted PQL	Adjusted IDL
7439-92-1	LEAD, TOTAL	18.8			P	1	5.0	0.91

Bottle ID: A

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services

Client Field ID: PEN21GW2002

Matrix: WATER

SDG Name: CTO056-5

Percent Solids: 0.00

Lab Sample ID: SA2210-001

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	Adjusted PQL	Adjusted IDL
7439-92-1	LEAD, TOTAL	43.9			P	1	5.0	0.91

Bottle ID: A/B

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services

Client Field ID: PEN21GW2002D

Matrix: WATER

SDG Name: CTO056-5

Percent Solids: 0.00

Lab Sample ID: SA2210-002

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	Adjusted PQL	Adjusted IDL
7439-92-1	LEAD, TOTAL	46.2			P	1	5.0	0.91

Bottle ID: A

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services

Client Field ID: PEN21GW2402

Matrix: WATER

SDG Name: CTO056-5

Percent Solids: 0.00

Lab Sample ID: SA2210-004

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	Adjusted PQL	Adjusted IDL
7439-92-1	LEAD, TOTAL	40.6			P	1	5.0	0.91

Bottle ID: A

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services

Client Field ID: PEN21GW2502

Matrix: WATER

SDG Name: CTO056-5

Percent Solids: 0.00

Lab Sample ID: SA2210-005

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	Adjusted PQL	Adjusted IDL
7439-92-1	LEAD, TOTAL	10.8			P	1	5.0	0.91

Bottle ID: A

Comments:

FORM I - IN

Katahdin Analytical Services 4000010

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services

Client Field ID: PEN21GW4304

Matrix: WATER

SDG Name: CTO056-5

Percent Solids: 0.00

Lab Sample ID: SA2211-004

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	Adjusted PQL	Adjusted IDL
7439-92-1	LEAD, TOTAL	80.8			P	1	5.0	0.91

Bottle ID: A

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services

Client Field ID: PEN21GW5302

Matrix: WATER

SDG Name: CTO056-5

Percent Solids: 0.00

Lab Sample ID: SA2211-001

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	Adjusted PQL	Adjusted IDL
7439-92-1	LEAD, TOTAL	45.0			P	1	5.0	0.91

Bottle ID: A

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services

Client Field ID: PEN21GW5302D

Matrix: WATER

SDG Name: CTO056-5

Percent Solids: 0.00

Lab Sample ID: SA2211-002

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	Adjusted PQL	Adjusted IDL
7439-92-1	LEAD, TOTAL	40.2			P	1	5.0	0.91

Bottle ID: A

Comments:

FORM I - IN

Katahdin Analytical Services 4000017

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services

Client Field ID: PEN21GW6701

Matrix: WATER

SDG Name: CTO056-5

Percent Solids: 0.00

Lab Sample ID: SA2211-003

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	Adjusted PQL	Adjusted IDL
7439-92-1	LEAD, TOTAL	57.4			P	1	5.0	0.91

Bottle ID: A

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services

Client Field ID: PEN21GW6801

Matrix: WATER

SDG Name: CTO056-5

Percent Solids: 0.00

Lab Sample ID: SA2210-009

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	Adjusted PQL	Adjusted IDL
7439-92-1	LEAD, TOTAL	114			P	1	5.0	0.91

Bottle ID: A

Comments:

FORM I - IN

Katahdin Analytical Services 4000014

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services

Client Field ID: PEN21GW6901

Matrix: WATER

SDG Name: CTO056-5

Percent Solids: 0.00

Lab Sample ID: SA2210-007

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	Adjusted PQL	Adjusted IDL
7439-92-1	LEAD, TOTAL	21.6			P	1	5.0	0.91

Bottle ID: A

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services

Client Field ID: PEN21GW7001

Matrix: WATER

SDG Name: CTO056-5

Percent Solids: 0.00

Lab Sample ID: SA2210-010

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	Adjusted PQL	Adjusted IDL
7439-92-1	LEAD, TOTAL	1.0	I		P	I	5.0	0.91

Bottle ID: A

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services

Client Field ID: PEN21GW7101

Matrix: WATER

SDG Name: CTO056-5

Percent Solids: 0.00

Lab Sample ID: SA2210-008

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	Adjusted PQL	Adjusted IDL
7439-92-1	LEAD, TOTAL	2.2	I		P	1	5.0	0.91

Bottle ID: A

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services

Client Field ID: PEN21GW7201

Matrix: WATER

SDG Name: CTO056-5

Percent Solids: 0.00

Lab Sample ID: SA2210-006

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	Adjusted PQL	Adjusted IDL
7439-92-1	LEAD, TOTAL	6.3			P	1	5.0	0.91

Bottle ID: A

Comments:



PEN21GW3802	PEN21GW3802D	PEN21GW46R01
PEN21GW5101	PEN21GW5202	PEN21GW7301
PEN21GW7401	PEN21GW7501	PEN21GW7601
TB051007		

The symbol (*) indicates that quality control criteria were met for this parameter. Problems affecting data quality are discussed below; documentation supporting these findings is presented in Appendix C. Qualified Analytical results are presented in Appendix A. Results as reported by the laboratory are presented in Appendix B.

Volatiles

The field duplicate precision exceeded the 30% relative percent difference (RPD) quality control limit for ethylbenzene in the field duplicate pair PEN21GW3802 / PEN21GW3802D. The positive results for ethylbenzene in the duplicate samples PEN21GW3802 / PEN21GW3802D were qualified as estimated (J).

Sample PEN21GW7301 required a 5X dilution for ethylbenzene because of a concentrations greater than the linear calibration range of the instrument. The ethylbenzene result for sample PEN21GW7301 was reported from the diluted analysis. All other results were reported from the undiluted analysis.

PAHs

Samples PEN21GW3802, PEN21GW3802D, PEN21GW5202, PEN21GW7301, PEN21GW7401, PEN21GW7501, and PEN21GW7601 required dilutions for naphthalene, 1-methylnaphthalene, and/or 2-methylnaphthalene because of concentrations greater than the linear calibration range of the instrument. The naphthalene, 1-methylnaphthalene, and/or 2-methylnaphthalene results were reported from the diluted analyses. All other results are reported from the undiluted analysis.

The continuing calibration analyzed on 05/22/07 @10:38 had percent differences greater than 25% for 2-methylnaphthalene and benzo(a)anthracene. The positive results for samples PEN21GW7601, PEN21GW3802, and PEN21GW5202 were qualified as estimated, J.

TPH

No qualification of the data was necessary.

Additional Comments:

Positive results less than the reporting limit (RL) were qualified as estimated "J", due to uncertainty near the detection limit.

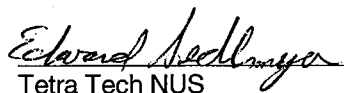
EXECUTIVE SUMMARY

Laboratory Performance Issues: Several minor continuing calibration noncompliances were noted for the PAH fraction.

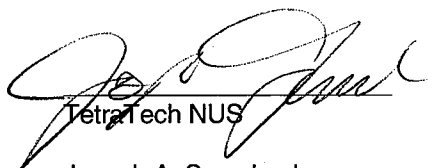
Other Factors Affecting Data Quality: Field duplicate imprecision resulted in the qualification of one VOC compound in the field duplicate pair.

The data for these analyses were reviewed with reference to the EPA Functional Guidelines for Organic Data Validation (10/99) and the Department of Defense (DoD) document entitled "Quality Systems Manual (QSM) for Environmental Laboratories" (January 2006). The text of this report has been formulated to address only those problem areas affecting data quality.

"I attest that the data referenced herein were validated according to the agreed upon validation criteria as specified in the DoD QSM for Environmental Laboratories.


Tetra Tech NUS

Edward Sedlmyer
Chemist/Data Validator


Tetra Tech NUS

Joseph A. Samchuck
Data Validation Quality Assurance Officer

Attachments:

Appendix A – Qualified Analytical Results
Appendix B – Results as Reported by the Laboratory
Appendix C – Support Documentation

PROJ_NO: 00583

SDG: CTO056-6 MEDIA: WATER DATA FRACTION: OV

nsample PEN21GW3802
samp_date 5/10/2007
lab_id SA2239-3
qc_type NM
units UG/L
Pct_Solids 0.0
DUP_OF:

nsample
samp_date
lab_id
qc_type
units
Pct_Solids
DUP_OF:

PEN21GW3802D
5/10/2007
SA2239-4
NM
UG/L
0.0
PEN21GW3802

nsample
samp_date
lab_id
qc_type
units
Pct_Solids
DUP_OF:

PEN21GW46R01RA
5/10/2007
SA2239-11RA
NM
UG/L
0.0

Parameter	Result	Val Qual	Qual Code
BENZENE	0.5	U	
ETHYLBENZENE	2	J	G
M+P-XYLENES	17		
O-XYLENE	2		
TOLUENE	0.4	U	
TOTAL XYLENES	19		

Parameter	Result	Val Qual	Qual Code
BENZENE	0.5	U	
ETHYLBENZENE	4	J	G
M+P-XYLENES	23		
O-XYLENE	2		
TOLUENE	0.4	U	
TOTAL XYLENES	25		

Parameter	Result	Val Qual	Qual Code
BENZENE	0.5	U	
ETHYLBENZENE	0.3	U	
M+P-XYLENES	1	U	
O-XYLENE	0.4	U	
TOLUENE	0.4	U	
TOTAL XYLENES	1	U	

PROJ_NO: 00583

SDG: CTO056-6 MEDIA: WATER DATA FRACTION: OV

nsample	PEN21GW5101	nsample	PEN21GW5202	nsample	PEN21GW7301
samp_date	5/10/2007	samp_date	5/10/2007	samp_date	5/10/2007
lab_id	SA2239-2	lab_id	SA2239-1	lab_id	SA2239-10
qc_type	NM	qc_type	NM	qc_type	NM
units	UG/L	units	UG/L	units	UG/L
Pct_Solids	0.0	Pct_Solids	0.0	Pct_Solids	0.0
DUP_OF:		DUP_OF:		DUP_OF:	

Parameter	Result	Val Qual	Qual Code
BENZENE	0.5	U	
ETHYLBENZENE	0.3	U	
M+P-XYLENES	1	U	
O-XYLENE	0.4	U	
TOLUENE	0.4	U	
TOTAL XYLENES	1	U	

Parameter	Result	Val Qual	Qual Code
BENZENE	0.5	U	
ETHYLBENZENE	0.3	U	
M+P-XYLENES	1	U	
O-XYLENE	0.4	U	
TOLUENE	0.4	U	
TOTAL XYLENES	1	U	

Parameter	Result	Val Qual	Qual Code
BENZENE	0.5	U	
M+P-XYLENES	41		
O-XYLENE	11		
TOLUENE	3		
TOTAL XYLENES	52		

PROJ_NO: 00583

SDG: CTO056-6 MEDIA: WATER DATA FRACTION: OV

nsample PEN21GW7301DL
samp_date 5/10/2007
lab_id SA2239-10DL
qc_type NM
units UG/L
Pct_Solids 0.0
DUP_OF:

Parameter	Result	Val Qual	Qual Code
ETHYLBENZENE	350		

nsample
samp_date
lab_id
qc_type
units
Pct_Solids
DUP_OF:

Parameter	Result	Val Qual	Qual Code
BENZENE	0.5	U	
ETHYLBENZENE	120		
M+P-XYLENES	190		
O-XYLENE	0.4	U	
TOLUENE	6		
TOTAL XYLENES	190		

nsample PEN21GW7401
samp_date 5/10/2007
lab_id SA2239-8
qc_type NM
units UG/L
Pct_Solids 0.0
DUP_OF:

Parameter	Result	Val Qual	Qual Code
BENZENE	0.5	U	
ETHYLBENZENE	120		
M+P-XYLENES	190		
O-XYLENE	0.4	U	
TOLUENE	6		
TOTAL XYLENES	190		

nsample
samp_date
lab_id
qc_type
units
Pct_Solids
DUP_OF:

Parameter	Result	Val Qual	Qual Code
BENZENE	0.5	U	
ETHYLBENZENE	6		
M+P-XYLENES	10		
O-XYLENE	0.4	U	
TOLUENE	0.4	U	
TOTAL XYLENES	10		

nsample PEN21GW7501
samp_date 5/10/2007
lab_id SA2239-9
qc_type NM
units UG/L
Pct_Solids 0.0
DUP_OF:

PROJ_NO: 00583

SDG: CTO056-6 MEDIA: WATER DATA FRACTION: OV

nsample	PEN21GW7601	nsample	TB051007
samp_date	5/10/2007	samp_date	4/25/2007
lab_id	SA2239-6	lab_id	SA2239-12
qc_type	NM	qc_type	NM
units	UG/L	units	UG/L
Pct_Solids	0.0	Pct_Solids	0.0
DUP_OF:		DUP_OF:	

Parameter	Result	Val	Qual	Code
BENZENE	0.5	U		
ETHYLBENZENE	45			
M+P-XYLENES	200			
O-XYLENE	9			
TOLUENE	12			
TOTAL XYLENES	200			

Parameter	Result	Val	Qual	Code
BENZENE	0.5	U		
ETHYLBENZENE	0.3	U		
M+P-XYLENES	1	U		
O-XYLENE	0.4	U		
TOLUENE	0.4	U		
TOTAL XYLENES	1	U		

PROJ_NO: 00583

SDG: CTO056-6 MEDIA: WATER DATA FRACTION: PAH

nsample
smp_date
lab_id
qc_type
units
Pct_Solids
DUP_OF:

nsample
smp_date
lab_id
qc_type
units
Pct_Solids
DUP_OF:

nsample
smp_date
lab_id
qc_type
units
Pct_Solids
DUP_OF:

Parameter	Result	Val	Qual	Qual
ACENAPHTHENE	1			
ACENAPHTHYLENE	0.06	U		
ANTHRACENE	0.06	U		
BENZO(A)ANTHRACENE	0.07	U		
BENZO(A)PYRENE	0.05	U		
BENZO(B)FLUORANTHENE	0.08	U		
BENZO(G,H,I)PERYLENE	0.09	U		
BENZO(K)FLUORANTHENE	0.1	U		
CHRYSENE	0.07	U		
DIBENZO(A,H)ANTHRACENE	0.1	U		
FLUORANTHENE	0.06	U		
FLUORENE	0.09	J	P	
INDENO(1,2,3-CD)PYRENE	0.1	U		
PHENANTHRENE	0.05	U		
PYRENE	0.06	U		

Parameter	Result	Val	Qual	Qual
ACENAPHTHENE	1			
ACENAPHTHYLENE	0.06	U		
ANTHRACENE	0.06	U		
BENZO(A)ANTHRACENE	0.07	U		
BENZO(A)PYRENE	0.05	U		
BENZO(B)FLUORANTHENE	0.08	U		
BENZO(G,H,I)PERYLENE	0.09	U		
BENZO(K)FLUORANTHENE	0.1	U		
CHRYSENE	0.07	U		
DIBENZO(A,H)ANTHRACENE	0.1	U		
FLUORANTHENE	0.06	U		
FLUORENE	0.6			
INDENO(1,2,3-CD)PYRENE	0.1	U		
PHENANTHRENE	0.05	U		
PYRENE	0.06	U		

Parameter	Result	Val	Qual	Qual
1-METHYLNAPHTHALENE	58			
2-METHYLNAPHTHALENE	99	J	C	
NAPHTHALENE	32			

PROJ_NO: 00583

SDG: CTO056-6 MEDIA: WATER DATA FRACTION: PAH

nsample PEN21GW3802DL
samp_date 5/10/2007
lab_id SA2239-3DL
qc_type NM
units UG/L
Pct_Solids 0.0
DUP_OF:

nsample PEN21GW46R01
samp_date 5/10/2007
lab_id SA2239-11
qc_type NM
units UG/L
Pct_Solids 0.0
DUP_OF:

nsample PEN21GW5101
samp_date 5/10/2007
lab_id SA2239-2
qc_type NM
units UG/L
Pct_Solids 0.0
DUP_OF:

Parameter	Result	Val	Qual	Qual
1-METHYLNAPHTHALENE	62			
2-METHYLNAPHTHALENE	100	J	C	
NAPHTHALENE	31			

Parameter	Result	Val	Qual	Qual
1-METHYLNAPHTHALENE	0.4			
2-METHYLNAPHTHALENE	0.2	J	P	
ACENAPHTHENE	0.4			
ACENAPHTHYLENE	0.06	U		
ANTHRACENE	0.06	U		
BENZO(A)ANTHRACENE	0.07	U		
BENZO(A)PYRENE	0.05	U		
BENZO(B)FLUORANTHENE	0.08	U		
BENZO(G,H,I)PERYLENE	0.09	U		
BENZO(K)FLUORANTHENE	0.1	U		
CHRYSENE	0.07	U		
DIBENZO(A,H)ANTHRACENE	0.1	U		
FLUORANTHENE	0.06	U		
FLUORENE	0.1	J	P	
INDENO(1,2,3-CD)PYRENE	0.1	U		
NAPHTHALENE	0.4			
PHENANTHRENE	0.06	J	P	
PYRENE	0.06	U		

Parameter	Result	Val	Qual	Qual
1-METHYLNAPHTHALENE	1			
2-METHYLNAPHTHALENE	1			
ACENAPHTHENE	0.07	U		
ACENAPHTHYLENE	0.06	U		
ANTHRACENE	0.06	U		
BENZO(A)ANTHRACENE	0.07	U		
BENZO(A)PYRENE	0.05	U		
BENZO(B)FLUORANTHENE	0.08	U		
BENZO(G,H,I)PERYLENE	0.08	U		
BENZO(K)FLUORANTHENE	0.1	U		
CHRYSENE	0.07	U		
DIBENZO(A,H)ANTHRACENE	0.1	U		
FLUORANTHENE	0.06	U		
FLUORENE	0.07	U		
INDENO(1,2,3-CD)PYRENE	0.09	U		
NAPHTHALENE	0.5			
PHENANTHRENE	0.05	U		
PYRENE	0.06	U		

PROJ_NO: 00583

SDG: CTO056-6 MEDIA: WATER DATA FRACTION: PAH

nsample
smp_date
lab_id
qc_type
units
Pct_Solids
DUP_OF:

nsample
smp_date
lab_id
qc_type
units
Pct_Solids
DUP_OF:

nsample
smp_date
lab_id
qc_type
units
Pct_Solids
DUP_OF:

Parameter	Result	Val	Qual	Qual
ACENAPHTHENE	1			
ACENAPHTHYLENE	0.06	U		
ANTHRACENE	0.06	U		
BENZO(A)ANTHRACENE	0.07	U		
BENZO(A)PYRENE	0.05	U		
BENZO(B)FLUORANTHENE	0.08	U		
BENZO(G,H,I)PERYLENE	0.09	U		
BENZO(K)FLUORANTHENE	0.1	U		
CHRYSENE	0.07	U		
DIBENZO(A,H)ANTHRACENE	0.1	U		
FLUORANTHENE	0.06	U		
FLUORENE	0.7			
INDENO(1,2,3-CD)PYRENE	0.1	U		
PHENANTHRENE	0.05	U		
PYRENE	0.06	U		

Parameter	Result	Val	Qual	Qual
1-METHYLNAPHTHALENE	130			
2-METHYLNAPHTHALENE	140	J		C
NAPHTHALENE	140			

Parameter	Result	Val	Qual	Qual
1-METHYLNAPHTHALENE	4			
ACENAPHTHENE	0.1	J		P
ACENAPHTHYLENE	0.06	U		
ANTHRACENE	0.06	U		
BENZO(A)ANTHRACENE	0.07	U		
BENZO(A)PYRENE	0.05	U		
BENZO(B)FLUORANTHENE	0.08	U		
BENZO(G,H,I)PERYLENE	0.09	U		
BENZO(K)FLUORANTHENE	0.1	U		
CHRYSENE	0.07	U		
DIBENZO(A,H)ANTHRACENE	0.1	U		
FLUORANTHENE	0.08	J		P
FLUORENE	0.07	U		
INDENO(1,2,3-CD)PYRENE	0.1	U		
PHENANTHRENE	0.05	U		
PYRENE	0.09	J		P

PROJ_NO: 00583

SDG: CTO056-6 MEDIA: WATER DATA FRACTION: PAH

nsample PEN21GW7301DL
samp_date 5/10/2007
lab_id SA2239-10DL
qc_type NM
units UG/L
Pct_Solids 0.0
DUP_OF:

Parameter	Result	Val	Qual	Code
2-METHYLNAPHTHALENE	6			
NAPHTHALENE	35			

nsample PEN21GW7401
samp_date 5/10/2007
lab_id SA2239-8
qc_type NM
units UG/L
Pct_Solids 0.0
DUP_OF:

Parameter	Result	Val	Qual	Code
1-METHYLNAPHTHALENE	3			
2-METHYLNAPHTHALENE	4			
ACENAPHTHENE	0.07	U		
ACENAPHTHYLENE	0.06	U		
ANTHRACENE	0.06	U		
BENZO(A)ANTHRACENE	0.07	U		
BENZO(A)PYRENE	0.05	U		
BENZO(B)FLUORANTHENE	0.08	U		
BENZO(G,H,I)PERYLENE	0.08	U		
BENZO(K)FLUORANTHENE	0.1	U		
CHRYSENE	0.07	U		
DIBENZO(A,H)ANTHRACENE	0.1	U		
FLUORANTHENE	0.1	J	P	
FLUORENE	0.07	U		
INDENO(1,2,3-CD)PYRENE	0.09	U		
PHENANTHRENE	0.1	J	P	
PYRENE	0.1	J	P	

nsample PEN21GW7401DL
samp_date 5/10/2007
lab_id SA2239-8DL
qc_type NM
units UG/L
Pct_Solids 0.0
DUP_OF:

Parameter	Result	Val	Qual	Code
NAPHTHALENE	10			

PROJ_NO: 00583

SDG: CTO056-6 MEDIA: WATER DATA FRACTION: PAH

nsample
smp_date
lab_id
qc_type
units
Pct_Solids
DUP_OF:

nsample
smp_date
lab_id
qc_type
units
Pct_Solids
DUP_OF:

nsample
smp_date
lab_id
qc_type
units
Pct_Solids
DUP_OF:

Parameter	Result	Val	Qual	Code
1-METHYLNAPHTHALENE	0.5			
2-METHYLNAPHTHALENE	0.6			
ACENAPHTHENE	0.2			
ACENAPHTHYLENE	0.06	U		
ANTHRACENE	0.06	U		
BENZO(A)ANTHRACENE	0.08	J	P	
BENZO(A)PYRENE	0.1	J	P	
BENZO(B)FLUORANTHENE	0.2	J	P	
BENZO(G,H,I)PERYLENE	0.2	J	P	
BENZO(K)FLUORANTHENE	0.1	J	P	
CHRYSENE	0.07	J	P	
DIBENZO(A,H)ANTHRACENE	0.1	J	P	
FLUORANTHENE	0.06	U		
FLUORENE	0.1	J	P	
INDENO(1,2,3-CD)PYRENE	0.09	U		
PHENANTHRENE	0.05	U		
PYRENE	0.06	U		

Parameter	Result	Val	Qual	Code
NAPHTHALENE	8			

Parameter	Result	Val	Qual	Code
1-METHYLNAPHTHALENE	2			
2-METHYLNAPHTHALENE	3			
ACENAPHTHENE	0.07	U		
ACENAPHTHYLENE	0.06	U		
ANTHRACENE	0.06	U		
BENZO(A)ANTHRACENE	0.07	U		
BENZO(A)PYRENE	0.05	U		
BENZO(B)FLUORANTHENE	0.08	U		
BENZO(G,H,I)PERYLENE	0.08	U		
BENZO(K)FLUORANTHENE	0.1	U		
CHRYSENE	0.07	U		
DIBENZO(A,H)ANTHRACENE	0.1	U		
FLUORANTHENE	0.06	U		
FLUORENE	0.07	U		
INDENO(1,2,3-CD)PYRENE	0.09	U		
PHENANTHRENE	0.05	U		
PYRENE	0.06	U		

PROJ_NO: 00583

SDG: CTO056-6 MEDIA: WATER DATA FRACTION: PAH

nsample PEN21GW7601DL
samp_date 5/10/2007
lab_id SA2239-6DL
qc_type NM
units UG/L
Pct_Solids 0.0
DUP_OF:

Parameter	Result	Val Qual	Qual Code
NAPHTHALENE	9		

PROJ_NO: 00583

SDG: CTO056-6 MEDIA: WATER DATA FRACTION: PET

nsample	PEN21GW3802DDL	nsample	PEN21GW3802DL	nsample	PEN21GW46R01
samp_date	5/10/2007	samp_date	5/10/2007	samp_date	5/10/2007
lab_id	SA2239-4DL	lab_id	SA2239-3DL	lab_id	SA2239-11
qc_type	NM	qc_type	NM	qc_type	NM
units	UG/L	units	UG/L	units	UG/L
Pct_Solids	0.0	Pct_Solids	0.0	Pct_Solids	0.0
DUP_OF:	PEN21GW3802	DUP_OF:		DUP_OF:	
Parameter	Result	Lab	Val	Qual	Code
TPH (C08-C40)	16000				
Parameter	Result	Lab	Val	Qual	Code
TPH (C08-C40)	18000				
Parameter	Result	Lab	Val	Qual	Code
TPH (C08-C40)	2100				

PROJ_NO: 00583

SDG: CTO056-6 MEDIA: WATER DATA FRACTION: PET

nsample	PEN21GW5101RA2	nsample	PEN21GW5202RA	nsample	PEN21GW7301RA					
samp_date	5/10/2007	samp_date	5/10/2007	samp_date	5/10/2007					
lab_id	SA2239-2RA2	lab_id	SA2239-1RA	lab_id	SA2239-10RA					
qc_type	NM	qc_type	NM	qc_type	NM					
units	UG/L	units	UG/L	units	UG/L					
Pct_Solids	0.0	Pct_Solids	0.0	Pct_Solids	0.0					
DUP_OF:		DUP_OF:		DUP_OF:						
Parameter	Result	Lab Qual	Val Qual	Parameter	Result	Lab Qual	Val Qual			
TPH (C08-C40)	290	I	J	P	TPH (C08-C40)	3100		TPH (C08-C40)	2300	

PROJ_NO: 00583

SDG: CTO056-6 MEDIA: WATER DATA FRACTION: PET

nsample	PEN21GW7401	nsample	PEN21GW7501RA	nsample	PEN21GW7601						
samp_date	5/10/2007	samp_date	5/10/2007	samp_date	5/10/2007						
lab_id	SA2239-8	lab_id	SA2239-9RA	lab_id	SA2239-6						
qc_type	NM	qc_type	NM	qc_type	NM						
units	UG/L	units	UG/L	units	UG/L						
Pct_Solids	0.0	Pct_Solids	0.0	Pct_Solids	0.0						
DUP_OF:		DUP_OF:		DUP_OF:							
Parameter	Result	Lab Qual	Val Qual	Parameter	Result	Lab Qual	Val Qual				
TPH (C08-C40)	2300			TPH (C08-C40)	1400			TPH (C08-C40)	3700		

APPENDIX A

QUALIFIED ANALYTICAL RESULTS

Data Validation Qualifier Codes:

- A = Lab Blank Contamination
- B = Field Blank Contamination
- C = Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
- C01 = GC/MS Tuning Noncompliance
- D = MS/MSD Recovery Noncompliance
- E = LCS/LCSD Recovery Noncompliance
- F = Lab Duplicate Imprecision
- G = Field Duplicate Imprecision
- H = Holding Time Exceedance
- I = ICP Serial Dilution Noncompliance
- J = GFAA PDS - GFAA MSA's $r < 0.995$ / ICP PDS Recovery Noncompliance
- K = ICP Interference - includes ICS % R Noncompliance
- L = Instrument Calibration Range Exceedance
- M = Sample Preservation Noncompliance
- N = Internal Standard Noncompliance
- N01 = Internal Standard Recovery Noncompliance Dioxins
- N02 = Recovery Standard Noncompliance Dioxins
- N03 = Clean-up Standard Noncompliance Dioxins
- O = Poor Instrument Performance (e.g. base-line drifting)
- P = Uncertainty near detection limit ($< 2 \times$ IDL for inorganics and $< \text{CRQL}$ for organics)
- Q = Other problems (can encompass a number of issues; e.g. chromatography, interferences, etc.)
- R = Surrogates Recovery Noncompliance
- S = Pesticide/PCB Resolution
- T = % Breakdown Noncompliance for DDT and Endrin
- U = % Difference between columns/detectors $> 25\%$ for positive results determined via GC/HPLC
- V = Non-linear calibrations; correlation coefficient $r < 0.995$
- W = EMPC result
- X = Signal to noise response drop
- Y = Percent solids $< 30\%$
- Z = Uncertainty at 2 sigma deviation is greater than sample activity

APPENDIX B

RESULTS AS REPORTED BY THE LABORATORY

KATAHDIN ANALYTICAL SERVICES
Report of Analytical Results

Client: Tetra Tech NUS, Inc
Project: CTO 056 NAS Pensacola
PO No:
Sample Date: 05/10/07
Received Date: 05/11/07
Extraction Date:
Analysis Date: 22-MAY-2007 14:02
Report Date: 05/31/2007
Matrix: WATER
% Solids: NA

Lab ID: SA2239-3
Client ID: PEN21GW3802
SDG: CTO056-6
Extracted by:
Extraction Method: SW846 5030
Analyst: SKT
Analysis Method: SW846 8260B
Lab Prep Batch: WG39161
Units: ug/l

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
71-43-2	Benzene	U	0.5	1.0	1	1	0.5
108-88-3	Toluene	U	0.4	1.0	1	1	0.4
100-41-4	Ethylbenzene		2	1.0	1	1	0.3
1330-20-7	Xylenes (total)		19	1.0	3	3	1
	m+p-Xylenes		17	1.0	2	2	1.0
95-47-6	o-Xylene		2	1.0	1	1	0.4
1868-53-7	Dibromofluoromethane		112%				
17060-07-0	1,2-Dichloroethane-D4		113%				
2037-26-5	Toluene-D8		97%				
460-00-4	P-Bromofluorobenzene		109%				

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KATAHDIN ANALYTICAL SERVICES
Report of Analytical Results

Client: Tetra Tech NUS, Inc
Project: CTO 056 NAS Pensacola
PO No:
Sample Date: 05/10/07
Received Date: 05/11/07
Extraction Date:
Analysis Date: 23-MAY-2007 15:22
Report Date: 05/31/2007
Matrix: WATER
% Solids: NA

Lab ID: SA2239-4
Client ID: PEN21GW3802D
SDG: CTO056-6
Extracted by:
Extraction Method: SW846 5030
Analyst: SKT
Analysis Method: SW846 8260B
Lab Prep Batch: WG39217
Units: ug/l

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
71-43-2	Benzene	U	0.5	1.0	1	1	0.5
108-88-3	Toluene	U	0.4	1.0	1	1	0.4
100-41-4	Ethylbenzene		4	1.0	1	1	0.3
1330-20-7	Xylenes (total)		25	1.0	3	3	1
	m+p-Xylenes		23	1.0	2	2	1.0
95-47-6	o-Xylene		2	1.0	1	1	0.4
1868-53-7	Dibromofluoromethane		92%				
17060-07-0	1,2-Dichloroethane-D4		93%				
2037-26-5	Toluene-D8		91%				
460-00-4	P-Bromofluorobenzene		97%				

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KATAHDIN ANALYTICAL SERVICES
Report of Analytical Results

Client: Tetra Tech NUS, Inc
Project: CTO 056 NAS Pensacola
PO No:
Sample Date: 05/10/07
Received Date: 05/11/07
Extraction Date:
Analysis Date: 24-MAY-2007 14:13
Report Date: 05/31/2007
Matrix: WATER
% Solids: NA

Lab ID: SA2239-11RA
Client ID: PEN21GW46R01
SDG: CTO056-6
Extracted by:
Extraction Method: SW846 5030
Analyst: SKT
Analysis Method: SW846 8260B
Lab Prep Batch: WG39272
Units: ug/l

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
108-88-3	Toluene	U	0.4	1.0	1	1	0.4
71-43-2	Benzene	U	0.5	1.0	1	1	0.5
100-41-4	Ethylbenzene	U	0.3	1.0	1	1	0.3
	m+p-Xylenes	U	1.0	1.0	2	2	1.0
95-47-6	o-Xylene	U	0.4	1.0	1	1	0.4
1330-20-7	Xylenes (total)	U	1	1.0	3	3	1
1868-53-7	Dibromofluoromethane		86%				
17060-07-0	1,2-Dichloroethane-D4		83%				
2037-26-5	Toluene-D8		86%				
460-00-4	P-Bromofluorobenzene		91%				

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KATAHDIN ANALYTICAL SERVICES
Report of Analytical Results

Client: Tetra Tech NUS, Inc
Project: CTO 056 NAS Pensacola
PO No:
Sample Date: 05/10/07
Received Date: 05/11/07
Extraction Date:
Analysis Date: 23-MAY-2007 14:50
Report Date: 05/31/2007
Matrix: WATER
% Solids: NA

Lab ID: SA2239-2
Client ID: PEN21GW5101
SDG: CTO056-6
Extracted by:
Extraction Method: SW846 5030
Analyst: SKT
Analysis Method: SW846 8260B
Lab Prep Batch: WG39217
Units: ug/l

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
71-43-2	Benzene	U	0.5	1.0	1	1	0.5
108-88-3	Toluene	U	0.4	1.0	1	1	0.4
100-41-4	Ethylbenzene	U	0.3	1.0	1	1	0.3
1330-20-7	Xylenes (total)	U	1	1.0	3	3	1
	m+p-Xylenes	U	1.0	1.0	2	2	1.0
95-47-6	o-Xylene	U	0.4	1.0	1	1	0.4
1868-53-7	Dibromofluoromethane		93%				
17060-07-0	1,2-Dichloroethane-D4		96%				
2037-26-5	Toluene-D8		90%				
460-00-4	P-Bromofluorobenzene		94%				

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KATAHDIN ANALYTICAL SERVICES
Report of Analytical Results

Client: Tetra Tech NUS, Inc
Project: CTO 056 NAS Pensacola
PO No:
Sample Date: 05/10/07
Received Date: 05/11/07
Extraction Date:
Analysis Date: 23-MAY-2007 14:18
Report Date: 05/31/2007
Matrix: WATER
% Solids: NA

Lab ID: SA2239-1
Client ID: PEN21GW5202
SDG: CTO056-6
Extracted by:
Extraction Method: SW846 5030
Analyst: SKT
Analysis Method: SW846 8260B
Lab Prep Batch: WG39217
Units: ug/l

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
71-43-2	Benzene	U	0.5	1.0	1	1	0.5
108-88-3	Toluene	U	0.4	1.0	1	1	0.4
100-41-4	Ethylbenzene	U	0.3	1.0	1	1	0.3
1330-20-7	Xylenes (total)	U	1	1.0	3	3	1
	m+p-Xylenes	U	1.0	1.0	2	2	1.0
95-47-6	o-Xylene	U	0.4	1.0	1	1	0.4
1868-53-7	Dibromofluoromethane		96%				
17060-07-0	1,2-Dichloroethane-D4		104%				
2037-26-5	Toluene-D8		93%				
460-00-4	P-Bromofluorobenzene		102%				

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KATAHDIN ANALYTICAL SERVICES
Report of Analytical Results

Client: Tetra Tech NUS, Inc
Project: CTO 056 NAS Pensacola
PO No:
Sample Date: 05/10/07
Received Date: 05/11/07
Extraction Date:
Analysis Date: 23-MAY-2007 15:35
Report Date: 05/31/2007
Matrix: WATER
% Solids: NA

Lab ID: SA2239-10
Client ID: PEN21GW7301
SDG: CTO056-6
Extracted by:
Extraction Method: SW846 5030
Analyst: SKT
Analysis Method: SW846 8260B
Lab Prep Batch: WG39218
Units: ug/l

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
108-88-3	Toluene		3	1.0	1	1	0.4
71-43-2	Benzene	U	0.5	1.0	1	1	0.5
100-41-4	Ethylbenzene	L	350	1.0	1	1	0.3
	m+p-Xylenes		41	1.0	2	2	1.0
95-47-6	o-Xylene		11	1.0	1	1	0.4
1330-20-7	Xylenes (total)		52	1.0	3	3	1
1868-53-7	Dibromofluoromethane		89%				
17060-07-0	1,2-Dichloroethane-D4		87%				
2037-26-5	Toluene-D8		90%				
460-00-4	P-Bromofluorobenzene		94%				

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KATAHDIN ANALYTICAL SERVICES
Report of Analytical Results

Client: Tetra Tech NUS, Inc
Project: CTO 056 NAS Pensacola
PO No:
Sample Date: 05/10/07
Received Date: 05/11/07
Extraction Date:
Analysis Date: 24-MAY-2007 14:44
Report Date: 05/31/2007
Matrix: WATER
% Solids: NA

Lab ID: SA2239-10DL
Client ID: PEN21GW7301
SDG: CTO056-6
Extracted by:
Extraction Method: SW846 5030
Analyst: SKT
Analysis Method: SW846 8260B
Lab Prep Batch: WG39272
Units: ug/l

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
108-88-3	Toluene	I	2	5.0	1	5	2
71-43-2	Benzene	U	2	5.0	1	5	2
100-41-4	Ethylbenzene		350	5.0	1	5	2
	m+p-Xylenes		33	5.0	2	10	5
95-47-6	O-Xylene		8	5.0	1	5	2
1330-20-7	Xylenes (total)		41	5.0	3	15	6
1868-53-7	Dibromofluoromethane		87%				
17060-07-0	1,2-Dichloroethane-D4		85%				
2037-26-5	Toluene-D8		87%				
460-00-4	P-Bromofluorobenzene		90%				

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KATAHDIN ANALYTICAL SERVICES
Report of Analytical Results

Client: Tetra Tech NUS, Inc
Project: CTO 056 NAS Pensacola
PO No:
Sample Date: 05/10/07
Received Date: 05/11/07
Extraction Date:
Analysis Date: 23-MAY-2007 16:27
Report Date: 05/31/2007
Matrix: WATER
% Solids: NA

Lab ID: SA2239-8
Client ID: PEN21GW7401
SDG: CTO056-6
Extracted by:
Extraction Method: SW846 5030
Analyst: SKT
Analysis Method: SW846 8260B
Lab Prep Batch: WG39217
Units: ug/l

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
71-43-2	Benzene	U	0.5	1.0	1	1	0.5
108-88-3	Toluene		6	1.0	1	1	0.4
100-41-4	Ethylbenzene		120	1.0	1	1	0.3
1330-20-7	Xylenes (total)		190	1.0	3	3	1
	m+p-Xylenes		190	1.0	2	2	1.0
95-47-6	o-Xylene	U	0.4	1.0	1	1	0.4
1868-53-7	Dibromofluoromethane		88%				
17060-07-0	1,2-Dichloroethane-D4		88%				
2037-26-5	Toluene-D8		92%				
460-00-4	P-Bromofluorobenzene		94%				

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KATAHDIN ANALYTICAL SERVICES
Report of Analytical Results

Client: Tetra Tech NUS, Inc
Project: CTO 056 NAS Pensacola
PO No:
Sample Date: 05/10/07
Received Date: 05/11/07
Extraction Date:
Analysis Date: 23-MAY-2007 16:59
Report Date: 05/31/2007
Matrix: WATER
% Solids: NA

Lab ID: SA2239-9
Client ID: PEN21GW7501
SDG: CTO056-6
Extracted by:
Extraction Method: SW846 5030
Analyst: SKT
Analysis Method: SW846 8260B
Lab Prep Batch: WG39217
Units: ug/l

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
71-43-2	Benzene	U	0.5	1.0	1	1	0.5
108-88-3	Toluene	U	0.4	1.0	1	1	0.4
100-41-4	Ethylbenzene		6	1.0	1	1	0.3
1330-20-7	Xylenes (total)		10	1.0	3	3	1
	m+p-Xylenes		10	1.0	2	2	1.0
95-47-6	o-Xylene	U	0.4	1.0	1	1	0.4
1868-53-7	Dibromofluoromethane		88%				
17060-07-0	1,2-Dichloroethane-D4		87%				
2037-26-5	Toluene-D8		93%				
460-00-4	P-Bromofluorobenzene		97%				

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KATAHDIN ANALYTICAL SERVICES
Report of Analytical Results

Client: Tetra Tech NUS, Inc
Project: CTO 056 NAS Pensacola
PO No:
Sample Date: 05/10/07
Received Date: 05/11/07
Extraction Date:
Analysis Date: 23-MAY-2007 15:54
Report Date: 05/31/2007
Matrix: WATER
% Solids: NA

Lab ID: SA2239-6
Client ID: PEN21GW7601
SDG: CTO056-6
Extracted by:
Extraction Method: SW846 5030
Analyst: SKT
Analysis Method: SW846 8260B
Lab Prep Batch: WG39217
Units: ug/l

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
71-43-2	Benzene	U	0.5	1.0	1	1	0.5
108-88-3	Toluene		12	1.0	1	1	0.4
100-41-4	Ethylbenzene		45	1.0	1	1	0.3
1330-20-7	Xylenes (total)		200	1.0	3	3	1
	m+p-Xylenes		200	1.0	2	2	1.0
95-47-6	o-Xylene		9	1.0	1	1	0.4
1868-53-7	Dibromofluoromethane		91%				
17060-07-0	1,2-Dichloroethane-D4		90%				
2037-26-5	Toluene-D8		92%				
460-00-4	P-Bromofluorobenzene		95%				

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KATAHDIN ANALYTICAL SERVICES
Report of Analytical Results

Client: Tetra Tech NUS, Inc
Project: CTO 056 NAS Pensacola
PO No:
Sample Date: 04/25/07
Received Date: 05/11/07
Extraction Date:
Analysis Date: 23-MAY-2007 09:29
Report Date: 05/31/2007
Matrix: WATER
% Solids: NA

Lab ID: SA2239-12
Client ID: TB051007
SDG: CTO056-6
Extracted by:
Extraction Method: SW846 5030
Analyst: SKT
Analysis Method: SW846 8260B
Lab Prep Batch: WG39217
Units: ug/l

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
71-43-2	Benzene	U	0.5	1.0	1	1	0.5
108-88-3	Toluene	U	0.4	1.0	1	1	0.4
100-41-4	Ethylbenzene	U	0.3	1.0	1	1	0.3
1330-20-7	Xylenes (total)	U	1	1.0	3	3	1
	m+p-Xylenes	U	1.0	1.0	2	2	1.0
95-47-6	o-Xylene	U	0.4	1.0	1	1	0.4
1868-53-7	Dibromofluoromethane		94%				
17060-07-0	1,2-Dichloroethane-D4		96%				
2037-26-5	Toluene-D8		89%				
460-00-4	P-Bromofluorobenzene		93%				

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KATAHDIN ANALYTICAL SERVICES

Report of Analytical Results

Client: Tetra Tech NUS, Inc
 Project: CTO 056 NAS Pensacola
 PO No:
 Sample Date: 05/10/07
 Received Date: 05/11/07
 Extraction Date: 05/15/07
 Analysis Date: 18-MAY-2007 19:46
 Report Date: 06/04/2007
 Matrix: WATER
 % Solids: NA

Lab ID: SA2239-3
 Client ID: PEN21GW3802
 SDG: CTO056-6
 Extracted by: GN
 Extraction Method: SW846 3510
 Analyst: JCG
 Analysis Method: SW846 M8270C
 Lab Prep Batch: WG38925
 Units: ug/L

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
91-20-3	Naphthalene	L	21	1.0	0.2	0.2	0.1
91-57-6	2-Methylnaphthalene	JL	62	1.0	0.2	0.2	0.07
90-12-0	1-Methylnaphthalene	L	39	1.0	0.2	0.2	0.2
208-96-8	Acenaphthylene	U	0.06	1.0	0.2	0.2	0.06
83-32-9	Acenaphthene		1.0	1.0	0.2	0.2	0.07
86-73-7	Fluorene	I	0.09	1.0	0.2	0.2	0.07
85-01-8	Phenanthrene	U	0.05	1.0	0.2	0.2	0.05
120-12-7	Anthracene	U	0.06	1.0	0.2	0.2	0.06
206-44-0	Fluoranthene	U	0.06	1.0	0.2	0.2	0.06
129-00-0	Pyrene	U	0.06	1.0	0.2	0.2	0.06
56-55-3	Benzo(a)anthracene	U	0.07	1.0	0.2	0.2	0.07
218-01-9	Chrysene	U	0.07	1.0	0.2	0.2	0.07
205-99-2	Benzo(b)fluoranthene	U	0.08	1.0	0.2	0.2	0.08
207-08-9	Benzo(k)fluoranthene	U	0.1	1.0	0.2	0.2	0.1
50-32-8	Benzo(a)pyrene	U	0.05	1.0	0.2	0.2	0.05
193-39-5	Indeno(1,2,3-cd)pyrene	U	0.1	1.0	0.2	0.2	0.1
191-24-2	Benzo(g,h,i)perylene	U	0.09	1.0	0.2	0.2	0.09
53-70-3	Dibenzo(a,h)anthracene	U	0.1	1.0	0.2	0.2	0.1
7297-45-2	2-Methylnaphthalene-d10		71%				
81103-79-9	Fluorene-d10		J 48%				
1718-52-1	Pyrene-d10		50%				

KATAHDIN ANALYTICAL SERVICES

Report of Analytical Results

Client: Tetra Tech NUS, Inc
 Project: CTO 056 NAS Pensacola
 PO No:
 Sample Date: 05/10/07
 Received Date: 05/11/07
 Extraction Date: 05/15/07
 Analysis Date: 22-MAY-2007 16:04
 Report Date: 05/24/2007
 Matrix: WATER
 % Solids: NA

Lab ID: SA2239-3DL
 Client ID: PEN21GW3802
 SDG: CTO056-6
 Extracted by: GN
 Extraction Method: SW846 3510
 Analyst: JCG
 Analysis Method: SW846 M8270C
 Lab Prep Batch: WG38925
 Units: ug/L

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
91-20-3	Naphthalene		31	40	0.2	8	5
91-57-6	2-Methylnaphthalene	J	100	40	0.2	8	3
90-12-0	1-Methylnaphthalene		62	40	0.2	8	6
208-96-8	Acenaphthylene	U	2	40	0.2	8	2
83-32-9	Acenaphthene	U	3	40	0.2	8	3
86-73-7	Fluorene	U	3	40	0.2	8	3
85-01-8	Phenanthrene	U	2	40	0.2	8	2
120-12-7	Anthracene	U	2	40	0.2	8	2
206-44-0	Fluoranthene	U	2	40	0.2	8	2
129-00-0	Pyrene	U	2	40	0.2	8	2
56-55-3	Benzo(a)anthracene	U	3	40	0.2	8	3
218-01-9	Chrysene	U	3	40	0.2	8	3
205-99-2	Benzo(b)fluoranthene	U	3	40	0.2	8	3
207-08-9	Benzo(k)fluoranthene	U	4	40	0.2	8	4
50-32-8	Benzo(a)pyrene	U	2	40	0.2	8	2
193-39-5	Indeno(1,2,3-cd)pyrene	U	4	40	0.2	8	4
191-24-2	Benzo(g,h,i)perylene	U	4	40	0.2	8	4
53-70-3	Dibenzo(a,h)anthracene	U	5	40	0.2	8	5
7297-45-2	2-Methylnaphthalene-d10		D				
81103-79-9	Fluorene-d10		D				
1718-52-1	Pyrene-d10		D				

KATAHDIN ANALYTICAL SERVICES

Report of Analytical Results

Client: Tetra Tech NUS, Inc
 Project: CTO 056 NAS Pensacola
 PO No:
 Sample Date: 05/10/07
 Received Date: 05/11/07
 Extraction Date: 05/15/07
 Analysis Date: 18-MAY-2007 20:35
 Report Date: 06/04/2007
 Matrix: WATER
 % Solids: NA

Lab ID: SA2239-4
 Client ID: PEN21GW3802D
 SDG: CTO056-6
 Extracted by: GN
 Extraction Method: SW846 3510
 Analyst: JCG
 Analysis Method: SW846 M8270C
 Lab Prep Batch: WG38925
 Units: ug/L

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
91-20-3	Naphthalene	L	22	1.0	0.2	0.2	0.1
91-57-6	2-Methylnaphthalene	JL	65	1.0	0.2	0.2	0.07
90-12-0	1-Methylnaphthalene	L	40	1.0	0.2	0.2	0.2
208-96-8	Acenaphthylene	U	0.06	1.0	0.2	0.2	0.06
83-32-9	Acenaphthene		1.0	1.0	0.2	0.2	0.07
86-73-7	Fluorene		0.6	1.0	0.2	0.2	0.07
85-01-8	Phenanthrene	U	0.05	1.0	0.2	0.2	0.05
120-12-7	Anthracene	U	0.06	1.0	0.2	0.2	0.06
206-44-0	Fluoranthene	U	0.06	1.0	0.2	0.2	0.06
129-00-0	Pyrene	U	0.06	1.0	0.2	0.2	0.06
56-55-3	Benzo(a)anthracene	U	0.07	1.0	0.2	0.2	0.07
218-01-9	Chrysene	U	0.07	1.0	0.2	0.2	0.07
205-99-2	Benzo(b)fluoranthene	U	0.08	1.0	0.2	0.2	0.08
207-08-9	Benzo(k)fluoranthene	U	0.1	1.0	0.2	0.2	0.1
50-32-8	Benzo(a)pyrene	U	0.05	1.0	0.2	0.2	0.05
193-39-5	Indeno(1,2,3-cd)pyrene	U	0.1	1.0	0.2	0.2	0.1
191-24-2	Benzo(g,h,i)perylene	U	0.09	1.0	0.2	0.2	0.09
53-70-3	Dibenzo(a,h)anthracene	U	0.1	1.0	0.2	0.2	0.1
7297-45-2	2-Methylnaphthalene-d10		72%				
81103-79-9	Fluorene-d10		J 53%				
1718-52-1	Pyrene-d10		50%				

KATAHDIN ANALYTICAL SERVICES

Report of Analytical Results

Client: Tetra Tech NUS, Inc
 Project: CTO 056 NAS Pensacola
 PO No:
 Sample Date: 05/10/07
 Received Date: 05/11/07
 Extraction Date: 05/15/07
 Analysis Date: 22-MAY-2007 13:00
 Report Date: 05/24/2007
 Matrix: WATER
 % Solids: NA

Lab ID: SA2239-4DL
 Client ID: PEN21GW3802D
 SDG: CTO056-6
 Extracted by: GN
 Extraction Method: SW846 3510
 Analyst: JCG
 Analysis Method: SW846 M8270C
 Lab Prep Batch: WG38925
 Units: ug/L

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
91-20-3	Naphthalene		32	20	0.2	4	2
91-57-6	2-Methylnaphthalene	J	99	20	0.2	4	1
90-12-0	1-Methylnaphthalene		58	20	0.2	4	3
208-96-8	Acenaphthylene	U	1	20	0.2	4	1
83-32-9	Acenaphthene	U	1	20	0.2	4	1
86-73-7	Fluorene	U	1	20	0.2	4	1
85-01-8	Phenanthrene	U	1	20	0.2	4	1
120-12-7	Anthracene	U	1	20	0.2	4	1
206-44-0	Fluoranthene	U	1	20	0.2	4	1
129-00-0	Pyrene	U	1	20	0.2	4	1
56-55-3	Benzo(a)anthracene	U	1	20	0.2	4	1
218-01-9	Chrysene	U	1	20	0.2	4	1
205-99-2	Benzo(b)fluoranthene	U	2	20	0.2	4	2
207-08-9	Benzo(k)fluoranthene	U	2	20	0.2	4	2
50-32-8	Benzo(a)pyrene	U	1	20	0.2	4	1
193-39-5	Indeno(1,2,3-cd)pyrene	U	2	20	0.2	4	2
191-24-2	Benzo(g,h,i)perylene	U	2	20	0.2	4	2
53-70-3	Dibenzo(a,h)anthracene	U	2	20	0.2	4	2
7297-45-2	2-Methylnaphthalene-d10		D				
81103-79-9	Fluorene-d10		D				
1718-52-1	Pyrene-d10		D				

KATAHDIN ANALYTICAL SERVICES

Report of Analytical Results

Client: Tetra Tech NUS, Inc
 Project: CTO 056 NAS Pensacola
 PO No:
 Sample Date: 05/10/07
 Received Date: 05/11/07
 Extraction Date: 05/15/07
 Analysis Date: 21-MAY-2007 17:34
 Report Date: 05/24/2007
 Matrix: WATER
 % Solids: NA

Lab ID: SA2239-11
 Client ID: PEN21GW46R01
 SDG: CTO056-6
 Extracted by: GN
 Extraction Method: SW846 3510
 Analyst: JCG
 Analysis Method: SW846 M8270C
 Lab Prep Batch: WG38925
 Units: ug/L

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
91-20-3	Naphthalene		0.4	1.0	0.2	0.2	0.1
91-57-6	2-Methylnaphthalene	J	0.2	1.0	0.2	0.2	0.07
90-12-0	1-Methylnaphthalene		0.4	1.0	0.2	0.2	0.1
208-96-8	Acenaphthylene	U	0.06	1.0	0.2	0.2	0.06
83-32-9	Acenaphthene		0.4	1.0	0.2	0.2	0.07
86-73-7	Fluorene	I	0.1	1.0	0.2	0.2	0.07
85-01-8	Phenanthrene	I	0.06	1.0	0.2	0.2	0.05
120-12-7	Anthracene	U	0.06	1.0	0.2	0.2	0.06
206-44-0	Fluoranthene	U	0.06	1.0	0.2	0.2	0.06
129-00-0	Pyrene	U	0.06	1.0	0.2	0.2	0.06
56-55-3	Benzo (a) anthracene	U	0.07	1.0	0.2	0.2	0.07
218-01-9	Chrysene	U	0.07	1.0	0.2	0.2	0.07
205-99-2	Benzo (b) fluoranthene	U	0.08	1.0	0.2	0.2	0.08
207-08-9	Benzo (k) fluoranthene	U	0.1	1.0	0.2	0.2	0.1
50-32-8	Benzo (a) pyrene	U	0.05	1.0	0.2	0.2	0.05
193-39-5	Indeno (1,2,3-cd) pyrene	U	0.10	1.0	0.2	0.2	0.10
191-24-2	Benzo (g,h,i) perylene	U	0.09	1.0	0.2	0.2	0.09
53-70-3	Dibenzo (a,h) anthracene	U	0.1	1.0	0.2	0.2	0.1
7297-45-2	2-Methylnaphthalene-d10		61%				
81103-79-9	Fluorene-d10		J 54%				
1718-52-1	Pyrene-d10		58%				

KATAHDIN ANALYTICAL SERVICES

Report of Analytical Results

Client: Tetra Tech NUS, Inc
 Project: CTO 056 NAS Pensacola
 PO NO:
 Sample Date: 05/10/07
 Received Date: 05/11/07
 Extraction Date: 05/15/07
 Analysis Date: 18-MAY-2007 18:58
 Report Date: 05/24/2007
 Matrix: WATER
 % Solids: NA

Lab ID: SA2239-2
 Client ID: PEN21GW5101
 SDG: CTO056-6
 Extracted by: GN
 Extraction Method: SW846 3510
 Analyst: JCG
 Analysis Method: SW846 M8270C
 Lab Prep Batch: WG38925
 Units: ug/L

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
91-20-3	Naphthalene		0.5	1.0	0.2	0.2	0.1
91-57-6	2-Methylnaphthalene	J	1.0	1.0	0.2	0.2	0.07
90-12-0	1-Methylnaphthalene		1	1.0	0.2	0.2	0.1
208-96-8	Acenaphthylene	U	0.06	1.0	0.2	0.2	0.06
83-32-9	Acenaphthene	U	0.07	1.0	0.2	0.2	0.07
86-73-7	Fluorene	U	0.07	1.0	0.2	0.2	0.07
85-01-8	Phenanthrene	U	0.05	1.0	0.2	0.2	0.05
120-12-7	Anthracene	U	0.06	1.0	0.2	0.2	0.06
206-44-0	Fluoranthene	U	0.06	1.0	0.2	0.2	0.06
129-00-0	Pyrene	U	0.06	1.0	0.2	0.2	0.06
56-55-3	Benzo(a)anthracene	U	0.07	1.0	0.2	0.2	0.07
218-01-9	Chrysene	U	0.07	1.0	0.2	0.2	0.07
205-99-2	Benzo(b)fluoranthene	U	0.08	1.0	0.2	0.2	0.08
207-08-9	Benzo(k)fluoranthene	U	0.1	1.0	0.2	0.2	0.1
50-32-8	Benzo(a)pyrene	U	0.05	1.0	0.2	0.2	0.05
193-39-5	Indeno(1,2,3-cd)pyrene	U	0.09	1.0	0.2	0.2	0.09
191-24-2	Benzo(g,h,i)perylene	U	0.08	1.0	0.2	0.2	0.08
53-70-3	Dibenzo(a,h)anthracene	U	0.1	1.0	0.2	0.2	0.1
7297-45-2	2-Methylnaphthalene-d10		55%				
81103-79-9	Fluorene-d10		J 49%				
1718-52-1	Pyrene-d10		52%				

KATAHDIN ANALYTICAL SERVICES

Report of Analytical Results

Client: Tetra Tech NUS, Inc
 Project: CTO 056 NAS Pensacola
 PO No:
 Sample Date: 05/10/07
 Received Date: 05/11/07
 Extraction Date: 05/15/07
 Analysis Date: 18-MAY-2007 18:09
 Report Date: 05/24/2007
 Matrix: WATER
 % Solids: NA

Lab ID: SA2239-1
 Client ID: PEN21GW5202
 SDG: CTO056-6
 Extracted by: GN
 Extraction Method: SW846 3510
 Analyst: JCG
 Analysis Method: SW846 M8270C
 Lab Prep Batch: WG38925
 Units: ug/L

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
91-20-3	Naphthalene	L	84	1.0	0.2	0.2	0.1
91-57-6	2-Methylnaphthalene	JL	95	1.0	0.2	0.2	0.07
90-12-0	1-Methylnaphthalene	L	80	1.0	0.2	0.2	0.2
208-96-8	Acenaphthylene	U	0.06	1.0	0.2	0.2	0.06
83-32-9	Acenaphthene		1.0	1.0	0.2	0.2	0.07
86-73-7	Fluorene		0.7	1.0	0.2	0.2	0.07
85-01-8	Phenanthrene	U	0.05	1.0	0.2	0.2	0.05
120-12-7	Anthracene	U	0.06	1.0	0.2	0.2	0.06
206-44-0	Fluoranthene	U	0.06	1.0	0.2	0.2	0.06
129-00-0	Pyrene	U	0.06	1.0	0.2	0.2	0.06
56-55-3	Benzo(a)anthracene	U	0.07	1.0	0.2	0.2	0.07
218-01-9	Chrysene	U	0.07	1.0	0.2	0.2	0.07
205-99-2	Benzo(b)fluoranthene	U	0.08	1.0	0.2	0.2	0.08
207-08-9	Benzo(k)fluoranthene	U	0.1	1.0	0.2	0.2	0.1
50-32-8	Benzo(a)pyrene	U	0.05	1.0	0.2	0.2	0.05
193-39-5	Indeno(1,2,3-cd)pyrene	U	0.1	1.0	0.2	0.2	0.1
191-24-2	Benzo(g,h,i)perylene	U	0.09	1.0	0.2	0.2	0.09
53-70-3	Dibenzo(a,h)anthracene	U	0.1	1.0	0.2	0.2	0.1
7297-45-2	2-Methylnaphthalene-d10		70%				
81103-79-9	Fluorene-d10		61%				
1718-52-1	Pyrene-d10		76%				

KATAHDIN ANALYTICAL SERVICES

Report of Analytical Results

Client: Tetra Tech NUS, Inc
 Project: CTO 056 NAS Pensacola
 PO NO:
 Sample Date: 05/10/07
 Received Date: 05/11/07
 Extraction Date: 05/15/07
 Analysis Date: 22-MAY-2007 16:49
 Report Date: 05/24/2007
 Matrix: WATER
 % Solids: NA

Lab ID: SA2239-1DL
 Client ID: PEN21GW5202
 SDG: CTO056-6
 Extracted by: GN
 Extraction Method: SW846 3510
 Analyst: JCG
 Analysis Method: SW846 M8270C
 Lab Prep Batch: WG38925
 Units: ug/L

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
91-20-3	Naphthalene		140	40	0.2	8	5
91-57-6	2-Methylnaphthalene	J	140	40	0.2	8	3
90-12-0	1-Methylnaphthalene		130	40	0.2	8	6
208-96-8	Acenaphthylene	U	2	40	0.2	8	2
83-32-9	Acenaphthene	U	3	40	0.2	8	3
86-73-7	Fluorene	U	3	40	0.2	8	3
85-01-8	Phenanthrene	U	2	40	0.2	8	2
120-12-7	Anthracene	U	2	40	0.2	8	2
206-44-0	Fluoranthene	U	2	40	0.2	8	2
129-00-0	Pyrene	U	2	40	0.2	8	2
56-55-3	Benzo (a) anthracene	U	3	40	0.2	8	3
218-01-9	Chrysene	U	3	40	0.2	8	3
205-99-2	Benzo (b) fluoranthene	U	3	40	0.2	8	3
207-08-9	Benzo (k) fluoranthene	U	4	40	0.2	8	4
50-32-8	Benzo (a) pyrene	U	2	40	0.2	8	2
193-39-5	Indeno (1,2,3-cd) pyrene	U	4	40	0.2	8	4
191-24-2	Benzo (g,h,i) perylene	U	4	40	0.2	8	4
53-70-3	Dibenzo (a,h) anthracene	U	5	40	0.2	8	5
7297-45-2	2-Methylnaphthalene-d10		D				
81103-79-9	Fluorene-d10		D				
1718-52-1	Pyrene-d10		D				

KATAHDIN ANALYTICAL SERVICES

Report of Analytical Results

Client: Tetra Tech NUS, Inc
 Project: CTO 056 NAS Pensacola
 PO No:
 Sample Date: 05/10/07
 Received Date: 05/11/07
 Extraction Date: 05/15/07
 Analysis Date: 21-MAY-2007 16:49
 Report Date: 05/24/2007
 Matrix: WATER
 % Solids: NA

Lab ID: SA2239-10
 Client ID: PEN21GW7301
 SDG: CTO056-6
 Extracted by: GN
 Extraction Method: SW846 3510
 Analyst: JCG
 Analysis Method: SW846 M8270C
 Lab Prep Batch: WG38925
 Units: ug/L

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
91-20-3	Naphthalene	L	28	1.0	0.2	0.2	0.1
91-57-6	2-Methylnaphthalene	JL	6	1.0	0.2	0.2	0.07
90-12-0	1-Methylnaphthalene		4	1.0	0.2	0.2	0.2
208-96-8	Acenaphthylene	U	0.06	1.0	0.2	0.2	0.06
83-32-9	Acenaphthene	I	0.10	1.0	0.2	0.2	0.07
86-73-7	Fluorene	U	0.07	1.0	0.2	0.2	0.07
85-01-8	Phenanthrene	U	0.05	1.0	0.2	0.2	0.05
120-12-7	Anthracene	U	0.06	1.0	0.2	0.2	0.06
206-44-0	Fluoranthene	I	0.08	1.0	0.2	0.2	0.06
129-00-0	Pyrene	I	0.09	1.0	0.2	0.2	0.06
56-55-3	Benzo(a)anthracene	U	0.07	1.0	0.2	0.2	0.07
218-01-9	Chrysene	U	0.07	1.0	0.2	0.2	0.07
205-99-2	Benzo(b)fluoranthene	U	0.08	1.0	0.2	0.2	0.08
207-08-9	Benzo(k)fluoranthene	U	0.1	1.0	0.2	0.2	0.1
50-32-8	Benzo(a)pyrene	U	0.05	1.0	0.2	0.2	0.05
193-39-5	Indeno(1,2,3-cd)pyrene	U	0.1	1.0	0.2	0.2	0.1
191-24-2	Benzo(g,h,i)perylene	U	0.09	1.0	0.2	0.2	0.09
53-70-3	Dibenzo(a,h)anthracene	U	0.1	1.0	0.2	0.2	0.1
7297-45-2	2-Methylnaphthalene-d10		78%				
81103-79-9	Fluorene-d10		65%				
1718-52-1	Pyrene-d10		65%				

KATAHDIN ANALYTICAL SERVICES

Report of Analytical Results

Client: Tetra Tech NUS, Inc
 Project: CTO 056 NAS Pensacola
 PO NO:
 Sample Date: 05/10/07
 Received Date: 05/11/07
 Extraction Date: 05/15/07
 Analysis Date: 21-MAY-2007 23:27
 Report Date: 05/24/2007
 Matrix: WATER
 % Solids: NA

Lab ID: SA2239-10DL
 Client ID: PEN21GW7301
 SDG: CTO056-6
 Extracted by: GN
 Extraction Method: SW846 3510
 Analyst: JCG
 Analysis Method: SW846 M8270C
 Lab Prep Batch: WG38925
 Units: ug/L

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
91-20-3	Naphthalene		35	10	0.2	2	1
91-57-6	2-Methylnaphthalene	J	6	10	0.2	2	0.7
90-12-0	1-Methylnaphthalene		4	10	0.2	2	2
208-96-8	Acenaphthylene	U	0.6	10	0.2	2	0.6
83-32-9	Acenaphthene	U	0.7	10	0.2	2	0.7
86-73-7	Fluorene	U	0.7	10	0.2	2	0.7
85-01-8	Phenanthrene	U	0.5	10	0.2	2	0.5
120-12-7	Anthracene	U	0.6	10	0.2	2	0.6
206-44-0	Fluoranthene	U	0.6	10	0.2	2	0.6
129-00-0	Pyrene	U	0.6	10	0.2	2	0.6
56-55-3	Benzo (a) anthracene	U	0.7	10	0.2	2	0.7
218-01-9	Chrysene	U	0.7	10	0.2	2	0.7
205-99-2	Benzo (b) fluoranthene	U	0.8	10	0.2	2	0.8
207-08-9	Benzo (k) fluoranthene	U	1	10	0.2	2	1
50-32-8	Benzo (a) pyrene	U	0.5	10	0.2	2	0.5
193-39-5	Indeno (1,2,3-cd) pyrene	U	1	10	0.2	2	1
191-24-2	Benzo (g,h,i) perylene	U	0.9	10	0.2	2	0.9
53-70-3	Dibenzo (a,h) anthracene	U	1	10	0.2	2	1
7297-45-2	2-Methylnaphthalene-d10		D				
81103-79-9	Fluorene-d10		D				
1718-52-1	Pyrene-d10		D				

KATAHDIN ANALYTICAL SERVICES

Report of Analytical Results

Client: Tetra Tech NUS, Inc
 Project: CTO 056 NAS Pensacola
 PO No:
 Sample Date: 05/10/07
 Received Date: 05/11/07
 Extraction Date: 05/15/07
 Analysis Date: 21-MAY-2007 15:17
 Report Date: 05/24/2007
 Matrix: WATER
 % Solids: NA

Lab ID: SA2239-8
 Client ID: PEN21GW7401
 SDG: CTO056-6
 Extracted by: GN
 Extraction Method: SW846 3510
 Analyst: JCG
 Analysis Method: SW846 M8270C
 Lab Prep Batch: WG38925
 Units: ug/L

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
91-20-3	Naphthalene	L	9	1.0	0.2	0.2	0.1
91-57-6	2-Methylnaphthalene	J	4	1.0	0.2	0.2	0.07
90-12-0	1-Methylnaphthalene		3	1.0	0.2	0.2	0.1
208-96-8	Acenaphthylene	U	0.06	1.0	0.2	0.2	0.06
83-32-9	Acenaphthene	U	0.07	1.0	0.2	0.2	0.07
86-73-7	Fluorene	U	0.07	1.0	0.2	0.2	0.07
85-01-8	Phenanthrene	I	0.1	1.0	0.2	0.2	0.05
120-12-7	Anthracene	U	0.06	1.0	0.2	0.2	0.06
206-44-0	Fluoranthene	I	0.1	1.0	0.2	0.2	0.06
129-00-0	Pyrene	I	0.1	1.0	0.2	0.2	0.06
56-55-3	Benzo(a)anthracene	U	0.07	1.0	0.2	0.2	0.07
218-01-9	Chrysene	U	0.07	1.0	0.2	0.2	0.07
205-99-2	Benzo(b)fluoranthene	U	0.08	1.0	0.2	0.2	0.08
207-08-9	Benzo(k)fluoranthene	U	0.1	1.0	0.2	0.2	0.1
50-32-8	Benzo(a)pyrene	U	0.05	1.0	0.2	0.2	0.05
193-39-5	Indeno(1,2,3-cd)pyrene	U	0.09	1.0	0.2	0.2	0.09
191-24-2	Benzo(g,h,i)perylene	U	0.08	1.0	0.2	0.2	0.08
53-70-3	Dibenzo(a,h)anthracene	U	0.1	1.0	0.2	0.2	0.1
7297-45-2	2-Methylnaphthalene-d10		63%				
81103-79-9	Fluorene-d10		J 50%				
1718-52-1	Pyrene-d10		61%				

KATAHDIN ANALYTICAL SERVICES

Report of Analytical Results

Client: Tetra Tech NUS, Inc
 Project: CTO 056 NAS Pensacola
 PO No:
 Sample Date: 05/10/07
 Received Date: 05/11/07
 Extraction Date: 05/15/07
 Analysis Date: 21-MAY-2007 19:14
 Report Date: 05/24/2007
 Matrix: WATER
 % Solids: NA

Lab ID: SA2239-8DL
 Client ID: PEN21GW7401
 SDG: CTO056-6
 Extracted by: GN
 Extraction Method: SW846 3510
 Analyst: JCG
 Analysis Method: SW846 M8270C
 Lab Prep Batch: WG38925
 Units: ug/L

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
91-20-3	Naphthalene		10	3.0	0.2	0.6	0.3
91-57-6	2-Methylnaphthalene	J	5	3.0	0.2	0.6	0.2
90-12-0	1-Methylnaphthalene		4	3.0	0.2	0.6	0.4
208-96-8	Acenaphthylene	U	0.2	3.0	0.2	0.6	0.2
83-32-9	Acenaphthene	U	0.2	3.0	0.2	0.6	0.2
86-73-7	Fluorene	U	0.2	3.0	0.2	0.6	0.2
85-01-8	Phenanthrene	U	0.1	3.0	0.2	0.6	0.1
120-12-7	Anthracene	U	0.2	3.0	0.2	0.6	0.2
206-44-0	Fluoranthene	U	0.2	3.0	0.2	0.6	0.2
129-00-0	Pyrene	I	0.2	3.0	0.2	0.6	0.2
56-55-3	Benzo(a)anthracene	U	0.2	3.0	0.2	0.6	0.2
218-01-9	Chrysene	U	0.2	3.0	0.2	0.6	0.2
205-99-2	Benzo(b)fluoranthene	U	0.2	3.0	0.2	0.6	0.2
207-08-9	Benzo(k)fluoranthene	U	0.3	3.0	0.2	0.6	0.3
50-32-8	Benzo(a)pyrene	U	0.1	3.0	0.2	0.6	0.1
193-39-5	Indeno(1,2,3-cd)pyrene	U	0.3	3.0	0.2	0.6	0.3
191-24-2	Benzo(g,h,i)perylene	U	0.2	3.0	0.2	0.6	0.2
53-70-3	Dibenzo(a,h)anthracene	U	0.3	3.0	0.2	0.6	0.3
7297-45-2	2-Methylnaphthalene-d10		61%				
81103-79-9	Fluorene-d10		60%				
1718-52-1	Pyrene-d10		73%				

KATAHDIN ANALYTICAL SERVICES

Report of Analytical Results

Client: Tetra Tech NUS, Inc
 Project: CTO 056 NAS Pensacola
 PO No:
 Sample Date: 05/10/07
 Received Date: 05/11/07
 Extraction Date: 05/15/07
 Analysis Date: 21-MAY-2007 16:03
 Report Date: 05/24/2007
 Matrix: WATER
 % Solids: NA

Lab ID: SA2239-9
 Client ID: PEN21GW7501
 SDG: CTO056-6
 Extracted by: GN
 Extraction Method: SW846 3510
 Analyst: JCG
 Analysis Method: SW846 M8270C
 Lab Prep Batch: WG38925
 Units: ug/L

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
91-20-3	Naphthalene	L	7	1.0	0.2	0.2	0.1
91-57-6	2-Methylnaphthalene	J	0.6	1.0	0.2	0.2	0.07
90-12-0	1-Methylnaphthalene		0.5	1.0	0.2	0.2	0.1
208-96-8	Acenaphthylene	U	0.06	1.0	0.2	0.2	0.06
83-32-9	Acenaphthene		0.2	1.0	0.2	0.2	0.07
86-73-7	Fluorene	I	0.1	1.0	0.2	0.2	0.07
85-01-8	Phenanthrene	U	0.05	1.0	0.2	0.2	0.05
120-12-7	Anthracene	U	0.06	1.0	0.2	0.2	0.06
206-44-0	Fluoranthene	U	0.06	1.0	0.2	0.2	0.06
129-00-0	Pyrene	U	0.06	1.0	0.2	0.2	0.06
56-55-3	Benzo (a) anthracene	I	0.08	1.0	0.2	0.2	0.07
218-01-9	Chrysene	I	0.07	1.0	0.2	0.2	0.07
205-99-2	Benzo (b) fluoranthene	I	0.2	1.0	0.2	0.2	0.08
207-08-9	Benzo (k) fluoranthene	I	0.1	1.0	0.2	0.2	0.1
50-32-8	Benzo (a) pyrene	I	0.10	1.0	0.2	0.2	0.05
193-39-5	Indeno (1,2,3-cd) pyrene	U	0.09	1.0	0.2	0.2	0.09
191-24-2	Benzo (g,h,i) perylene	I	0.2	1.0	0.2	0.2	0.08
53-70-3	Dibenzo (a,h) anthracene	I	0.1	1.0	0.2	0.2	0.1
7297-45-2	2-Methylnaphthalene-d10		66%				
81103-79-9	Fluorene-d10		J 57%				
1718-52-1	Pyrene-d10		57%				

KATAHDIN ANALYTICAL SERVICES

Report of Analytical Results

Client: Tetra Tech NUS, Inc
 Project: CTO 056 NAS Pensacola
 PO No:
 Sample Date: 05/10/07
 Received Date: 05/11/07
 Extraction Date: 05/15/07
 Analysis Date: 21-MAY-2007 20:07
 Report Date: 05/24/2007
 Matrix: WATER
 % Solids: NA

Lab ID: SA2239-9DL
 Client ID: PEN21GW7501
 SDG: CTO056-6
 Extracted by: GN
 Extraction Method: SW846 3510
 Analyst: JCG
 Analysis Method: SW846 M8270C
 Lab Prep Batch: WG38925
 Units: ug/L

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
91-20-3	Naphthalene		8	5.0	0.2	0.9	0.6
91-57-6	2-Methylnaphthalene	J	1	5.0	0.2	0.9	0.3
90-12-0	1-Methylnaphthalene	U	0.7	5.0	0.2	0.9	0.7
208-96-8	Acenaphthylene	U	0.3	5.0	0.2	0.9	0.3
83-32-9	Acenaphthene	U	0.3	5.0	0.2	0.9	0.3
86-73-7	Fluorene	U	0.3	5.0	0.2	0.9	0.3
85-01-8	Phenanthrene	U	0.2	5.0	0.2	0.9	0.2
120-12-7	Anthracene	U	0.3	5.0	0.2	0.9	0.3
206-44-0	Fluoranthene	U	0.3	5.0	0.2	0.9	0.3
129-00-0	Pyrene	U	0.3	5.0	0.2	0.9	0.3
56-55-3	Benzo(a)anthracene	U	0.3	5.0	0.2	0.9	0.3
218-01-9	Chrysene	U	0.3	5.0	0.2	0.9	0.3
205-99-2	Benzo(b)fluoranthene	U	0.4	5.0	0.2	0.9	0.4
207-08-9	Benzo(k)fluoranthene	U	0.5	5.0	0.2	0.9	0.5
50-32-8	Benzo(a)pyrene	U	0.2	5.0	0.2	0.9	0.2
193-39-5	Indeno(1,2,3-cd)pyrene	U	0.5	5.0	0.2	0.9	0.5
191-24-2	Benzo(g,h,i)perylene	U	0.4	5.0	0.2	0.9	0.4
53-70-3	Dibenzo(a,h)anthracene	U	0.6	5.0	0.2	0.9	0.6
7297-45-2	2-Methylnaphthalene-d10		65%				
81103-79-9	Fluorene-d10		59%				
1718-52-1	Pyrene-d10		71%				

KATAHDIN ANALYTICAL SERVICES

Report of Analytical Results

Client: Tetra Tech NUS, Inc
 Project: CTO 056 NAS Pensacola
 PO No:
 Sample Date: 05/10/07
 Received Date: 05/11/07
 Extraction Date: 05/15/07
 Analysis Date: 18-MAY-2007 21:23
 Report Date: 06/04/2007
 Matrix: WATER
 % Solids: NA

Lab ID: SA2239-6
 Client ID: PEN21GW7601
 SDG: CTO056-6
 Extracted by: GN
 Extraction Method: SW846 3510
 Analyst: JCG
 Analysis Method: SW846 M8270C
 Lab Prep Batch: WG38925
 Units: ug/L

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
91-20-3	Naphthalene	L	9	1.0	0.2	0.2	0.1
91-57-6	2-Methylnaphthalene	J	3	1.0	0.2	0.2	0.07
90-12-0	1-Methylnaphthalene		2	1.0	0.2	0.2	0.1
208-96-8	Acenaphthylene	U	0.06	1.0	0.2	0.2	0.06
83-32-9	Acenaphthene	U	0.07	1.0	0.2	0.2	0.07
86-73-7	Fluorene	U	0.07	1.0	0.2	0.2	0.07
85-01-8	Phenanthrene	U	0.05	1.0	0.2	0.2	0.05
120-12-7	Anthracene	U	0.06	1.0	0.2	0.2	0.06
206-44-0	Fluoranthene	U	0.06	1.0	0.2	0.2	0.06
129-00-0	Pyrene	U	0.06	1.0	0.2	0.2	0.06
56-55-3	Benzo(a)anthracene	U	0.07	1.0	0.2	0.2	0.07
218-01-9	Chrysene	U	0.07	1.0	0.2	0.2	0.07
205-99-2	Benzo(b)fluoranthene	U	0.08	1.0	0.2	0.2	0.08
207-08-9	Benzo(k)fluoranthene	U	0.1	1.0	0.2	0.2	0.1
50-32-8	Benzo(a)pyrene	U	0.05	1.0	0.2	0.2	0.05
193-39-5	Indeno(1,2,3-cd)pyrene	U	0.09	1.0	0.2	0.2	0.09
191-24-2	Benzo(g,h,i)perylene	U	0.08	1.0	0.2	0.2	0.08
53-70-3	Dibenzo(a,h)anthracene	U	0.1	1.0	0.2	0.2	0.1
7297-45-2	2-Methylnaphthalene-d10		59%				
81103-79-9	Fluorene-d10		J 42%				
1718-52-1	Pyrene-d10		J 42%				

KATAHDIN ANALYTICAL SERVICES

Report of Analytical Results

Client: Tetra Tech NUS, Inc
 Project: CTO 056 NAS Pensacola
 PO No:
 Sample Date: 05/10/07
 Received Date: 05/11/07
 Extraction Date: 05/15/07
 Analysis Date: 22-MAY-2007 13:46
 Report Date: 05/24/2007
 Matrix: WATER
 % Solids: NA

Lab ID: SA2239-6DL
 Client ID: PEN21GW7601
 SDG: CTO056-6
 Extracted by: GN
 Extraction Method: SW846 3510
 Analyst: JCG
 Analysis Method: SW846 M8270C
 Lab Prep Batch: WG38925
 Units: ug/L

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
91-20-3	Naphthalene		9	3.0	0.2	0.6	0.3
91-57-6	2-Methylnaphthalene	J	4	3.0	0.2	0.6	0.2
90-12-0	1-Methylnaphthalene		2	3.0	0.2	0.6	0.4
208-96-8	Acenaphthylene	U	0.2	3.0	0.2	0.6	0.2
83-32-9	Acenaphthene	U	0.2	3.0	0.2	0.6	0.2
86-73-7	Fluorene	U	0.2	3.0	0.2	0.6	0.2
85-01-8	Phenanthrene	U	0.1	3.0	0.2	0.6	0.1
120-12-7	Anthracene	U	0.2	3.0	0.2	0.6	0.2
206-44-0	Fluoranthene	U	0.2	3.0	0.2	0.6	0.2
129-00-0	Pyrene	U	0.2	3.0	0.2	0.6	0.2
56-55-3	Benzo(a)anthracene	U	0.2	3.0	0.2	0.6	0.2
218-01-9	Chrysene	U	0.2	3.0	0.2	0.6	0.2
205-99-2	Benzo(b)fluoranthene	U	0.2	3.0	0.2	0.6	0.2
207-08-9	Benzo(k)fluoranthene	U	0.3	3.0	0.2	0.6	0.3
50-32-8	Benzo(a)pyrene	U	0.1	3.0	0.2	0.6	0.1
193-39-5	Indeno(1,2,3-cd)pyrene	U	0.3	3.0	0.2	0.6	0.3
191-24-2	Benzo(g,h,i)perylene	U	0.2	3.0	0.2	0.6	0.2
53-70-3	Dibenzo(a,h)anthracene	U	0.3	3.0	0.2	0.6	0.3
7297-45-2	2-Methylnaphthalene-d10		59%				
81103-79-9	Fluorene-d10		J 43%				
1718-52-1	Pyrene-d10		J 41%				

KATAHDIN ANALYTICAL SERVICES
Report of Analytical Results

Client: Tetra Tech NUS, Inc
Project: CTO 056 NAS Pensacola
PO No:
Sample Date: 05/10/07
Received Date: 05/11/07
Extraction Date: 05/15/07
Analysis Date: 22-MAY-2007 15:45
Report Date: 05/25/2007
Matrix: WATER
% Solids: NA

Lab ID: SA2239-4DL
Client ID: PEN21GW3802D
SDG: CTO056-6
Extracted by: GN
Extraction Method: SW846 3510
Analyst: TR
Analysis Method: SW846 M8015
Lab Prep Batch: WG38927
Units: ug/L

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
	Petroleum Range Organics		16000	10	500	5000	2900
	n-Triacontane-D62		D				
	O-Terphenyl		D				

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KATAHDIN ANALYTICAL SERVICES
Report of Analytical Results

Client: Tetra Tech NUS, Inc
Project: CTO 056 NAS Pensacola
PO No:
Sample Date: 05/10/07
Received Date: 05/11/07
Extraction Date: 05/15/07
Analysis Date: 22-MAY-2007 04:52
Report Date: 05/25/2007
Matrix: WATER
% Solids: NA

Lab ID: SA2239-3DL
Client ID: PEN21GW3802
SDG: CTO056-6
Extracted by: GN
Extraction Method: SW846 3510
Analyst: TR
Analysis Method: SW846 M8015
Lab Prep Batch: WG38927
Units: ug/L

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
	Petroleum Range Organics		18000	10	500	4800	2800
	n-Triacontane-D62		D				
	O-Terphenyl		D				

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KATAHDIN ANALYTICAL SERVICES
Report of Analytical Results

Client: Tetra Tech NUS, Inc
Project: CTO 056 NAS Pensacola
PO No:
Sample Date: 05/10/07
Received Date: 05/11/07
Extraction Date: 05/15/07
Analysis Date: 22-MAY-2007 03:36
Report Date: 05/25/2007
Matrix: WATER
% Solids: NA

Lab ID: SA2239-11
Client ID: PEN21GW46R01
SDG: CTO056-6
Extracted by: GN
Extraction Method: SW846 3510
Analyst: TR
Analysis Method: SW846 M8015
Lab Prep Batch: WG38927
Units: ug/L

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
	Petroleum Range Organics		2100	1.0	500	500	280
	n-Triacontane-D62		110%				
	O-Terphenyl		114%				

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KATAHDIN ANALYTICAL SERVICES
Report of Analytical Results

Client: Tetra Tech NUS, Inc
Project: CTO 056 NAS Pensacola
PO No:
Sample Date: 05/10/07
Received Date: 05/11/07
Extraction Date: 05/15/07
Analysis Date: 21-MAY-2007 23:50
Report Date: 05/25/2007
Matrix: WATER
% Solids: NA

Lab ID: SA2239-2RA2
Client ID: PEN21GW5101
SDG: CTO056-6
Extracted by: GN
Extraction Method: SW846 3510
Analyst: TR
Analysis Method: SW846 M8015
Lab Prep Batch: WG38927
Units: ug/L

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
	Petroleum Range Organics	I	290	1.0	500	500	290
	n-Triacontane-D62		92%				
	O-Terphenyl		94%				

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KATAHDIN ANALYTICAL SERVICES
Report of Analytical Results

Client: Tetra Tech NUS, Inc
Project: CTO 056 NAS Pensacola
PO No:
Sample Date: 05/10/07
Received Date: 05/11/07
Extraction Date: 05/15/07
Analysis Date: 18-MAY-2007 22:57
Report Date: 05/25/2007
Matrix: WATER
% Solids: NA

Lab ID: SA2239-1RA
Client ID: PEN21GW5202
SDG: CTO056-6
Extracted by: GN
Extraction Method: SW846 3510
Analyst: TR
Analysis Method: SW846 M8015
Lab Prep Batch: WG38927
Units: ug/L

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
	Petroleum Range Organics		3100	1.0	500	510	300
	n-Triacontane-D62		93%				
	O-Terphenyl		95%				

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KATAHDIN ANALYTICAL SERVICES
Report of Analytical Results

Client: Tetra Tech NUS, Inc
Project: CTO 056 NAS Pensacola
PO No:
Sample Date: 05/10/07
Received Date: 05/11/07
Extraction Date: 05/15/07
Analysis Date: 22-MAY-2007 02:21
Report Date: 05/25/2007
Matrix: WATER
% Solids: NA

Lab ID: SA2239-10RA
Client ID: PEN21GW7301
SDG: CTO056-6
Extracted by: GN
Extraction Method: SW846 3510
Analyst: TR
Analysis Method: SW846 M8015
Lab Prep Batch: WG38927
Units: ug/L

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
	Petroleum Range Organics		2300	1.0	500	500	300
	n-Triacontane-D62		146%				
	O-Terphenyl		J152%				

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KATAHDIN ANALYTICAL SERVICES
Report of Analytical Results

Client: Tetra Tech NUS, Inc
Project: CTO 056 NAS Pensacola
PO No:
Sample Date: 05/10/07
Received Date: 05/11/07
Extraction Date: 05/15/07
Analysis Date: 19-MAY-2007 02:42
Report Date: 05/25/2007
Matrix: WATER
% Solids: NA

Lab ID: SA2239-8
Client ID: PEN21GW7401
SDG: CTO056-6
Extracted by: GN
Extraction Method: SW846 3510
Analyst: TR
Analysis Method: SW846 M8015
Lab Prep Batch: WG38927
Units: ug/L

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
	Petroleum Range Organics		2300	1.0	500	500	290
	n-Triacontane-D62		88%				
	O-Terphenyl		92%				

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KATAHDIN ANALYTICAL SERVICES
Report of Analytical Results

Client: Tetra Tech NUS, Inc
Project: CTO 056 NAS Pensacola
PO No:
Sample Date: 05/10/07
Received Date: 05/11/07
Extraction Date: 05/15/07
Analysis Date: 22-MAY-2007 01:05
Report Date: 05/25/2007
Matrix: WATER
% Solids: NA

Lab ID: SA2239-9RA
Client ID: PEN21GW7501
SDG: CTO056-6
Extracted by: GN
Extraction Method: SW846 3510
Analyst: TR
Analysis Method: SW846 M8015
Lab Prep Batch: WG38927
Units: ug/L

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
	Petroleum Range Organics		1400	1.0	500	5.00	280
	n-Triacontane-D62		104%				
	O-Terphenyl		106%				

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KATAHDIN ANALYTICAL SERVICES
Report of Analytical Results

Client: Tetra Tech NUS, Inc
Project: CTO 056 NAS Pensacola
PO No:
Sample Date: 05/10/07
Received Date: 05/11/07
Extraction Date: 05/15/07
Analysis Date: 19-MAY-2007 01:27
Report Date: 05/25/2007
Matrix: WATER
% Solids: NA

Lab ID: SA2239-6
Client ID: PEN21GW7601
SDG: CTO056-6
Extracted by: GN
Extraction Method: SW846 3510
Analyst: TR
Analysis Method: SW846 M8015
Lab Prep Batch: WG38927
Units: ug/L

CAS#	Compound	Flags	Results	DF	PQL	Adj.PQL	Adj.MDL
	Petroleum Range Organics		3700	1.0	500	500	300
	n-Triacontane-D62		90%				
	O-Terphenyl		94%				

Page 01 of 01 CAE1091.d



Tetra Tech NUS

INTERNAL CORRESPONDENCE

TO: G. WALKER **DATE:** JULY 13, 2007
FROM: MATTHEW D. KRAUS **COPIES:** DV FILE
SUBJECT: INORGANIC DATA VALIDATION – LEAD
NAS PENSACOLA – CTO 056
SDG – CTO056-6
SAMPLES: 7/Aqueous/
PEN21GW31R01 PEN21GW46R01 PEN21GW5401
PEN21GW7301 PEN21GW7401 PEN21GW7501
PEN21GW7601

Overview

The sample set for NAS Pensacola, CTO 056, SDG CTO056-6, consists of seven aqueous environmental samples which were collected by Tetra Tech NUS on May 10, 2007 and analyzed for total lead by Katahdin Analytical Services. Lead analyses were conducted using SW-846 method 6010B and Inductively Coupled Plasma – Atomic Emission Spectrometry (ICP-AES) methodology.

Data were evaluated based on the following parameters:

- * • Data Completeness
 - Holding Times
 - * • Calibration Recoveries
 - Laboratory Method/Preparation Blank Analyses
 - * • Detection Limits
- * - All quality control criteria were met for this parameter.

Holding Times

Samples PEN21GW31R01 and PEN21GW5401 were not properly preserved (nitric acid was not added to the samples). Sample PEN21GW31R01 was qualified as estimated, "J", due to sample preservation noncompliance and sample PEN21GW5401 was qualified due to laboratory blank contamination.

Laboratory Method/Preparation Blank Analyses

The following contaminant was detected in the laboratory method/preparation blanks at the following maximum concentration:

Analyte	Maximum Concentration (µg/L)	Action Level (µg/L)
Lead ⁽¹⁾	0.932	4.66

⁽¹⁾ Maximum concentration present in a laboratory method blank affecting all samples.

TO: WALKER, G. – PAGE 2
DATE: July 13, 2007

An action level of five times the maximum contaminant level has been used to evaluate sample data for blank contamination. Sample aliquot and dilution factors, if applicable, were taken into consideration when evaluating for blank contamination. Positive results less than the blank action level reported for the above analyte were qualified "U" as a result of laboratory blank contamination. Lead was qualified due to laboratory blank contamination.

Notes

The laboratory received sample PEN21GW4601 (as identified on the chain-of-custody) labeled as sample PEN21GW46R01. The Tetra Tech NUS, Inc. sampler (Jason Bourgeois) was contacted and confirmed that the sample ID on the bottle label was to be used. The laboratory used the sample ID on the bottle label (PEN21GW46R01) and that ID is also presented in the database.

Executive Summary

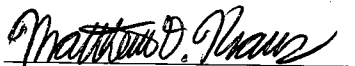
Laboratory Performance: Lead was qualified due to laboratory blank contamination.

Other Factors Affecting Data Quality: None.

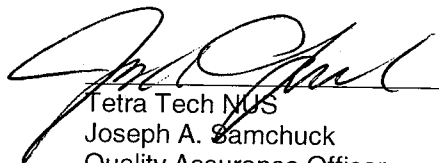
The data for these analyses were reviewed with reference to the "National Functional Guidelines for Inorganic Data Review", October 2004, and the Department of Defense (DoD) document entitled "Quality Systems Manual (QSM) for Environmental Laboratories" (January 2006).

The text of this report has been formulated to address only those problem areas affecting data quality.

"I attest that the data referenced herein were validated according to the agreed upon validation criteria as specified in the DoD QSM and the Quality Assurance Project Plan (QAPP)."



Tetra Tech NUS
Matthew D. Kraus
Environmental Chemist



Tetra Tech NUS
Joseph A. Samchuck
Quality Assurance Officer

Attachments:

1. Appendix A - Qualified Analytical Results
2. Appendix B - Results as reported by the Laboratory
3. Appendix C - Support Documentation

APPENDIX A
QUALIFIED ANALYTICAL RESULTS

Data Validation Qualifier Codes:

- A = Lab Blank Contamination
- B = Field Blank Contamination
- C = Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
- C01 = GC/MS Tuning Noncompliance
- D = MS/MSD Recovery Noncompliance
- E = LCS/LCSD Recovery Noncompliance
- F = Lab Duplicate Imprecision
- G = Field Duplicate Imprecision
- H = Holding Time Exceedance
- I = ICP Serial Dilution Noncompliance
- J = GFAA PDS - GFAA MSA's $r < 0.995$
- K = ICP Interference - includes ICS % R Noncompliance
- L = Instrument Calibration Range Exceedance
- M = Sample Preservation Noncompliance
- N = Internal Standard Noncompliance
- N01 = Internal Standard Recovery Noncompliance Dioxins
- N02 = Recovery Standard Noncompliance Dioxins
- N03 = Clean-up Standard Noncompliance Dioxins
- O = Poor Instrument Performance (e.g. base-line drifting)
- P = Uncertainty near detection limit ($< 2 \times \text{IDL}$ for inorganics and $< \text{CRQL}$ for organics)
- Q = Other problems (can encompass a number of issues; e.g. chromatography, interferences, etc.)
- R = Surrogates Recovery Noncompliance
- S = Pesticide/PCB Resolution
- T = % Breakdown Noncompliance for DDT and Endrin
- U = % Difference between columns/detectors $> 25\%$ for positive results determined via GC/HPLC
- V = Non-linear calibrations; correlation coefficient $r < 0.995$
- W = EMPC result
- X = Signal to noise response drop
- Y = Percent solids $< 30\%$
- Z = Uncertainty at 2 sigma deviation is greater than sample activity

PROJ_NO: 00583

SDG: CTO056-6 MEDIA: WATER DATA FRACTION: M

7-13-07
✓

nsample	PEN21GW31R01	nsample	PEN21GW46R01	nsample	PEN21GW5401
samp_date	5/10/2007	samp_date	5/10/2007	samp_date	5/10/2007
lab_id	SA2239-007	lab_id	SA2239-011	lab_id	SA2239-005
qc_type	NM	qc_type	NM	qc_type	NM
units	UG/L	units	UG/L	units	UG/L
Pct_Solids	0.0	Pct_Solids	0.0	Pct_Solids	0.0
DUP_OF:		DUP_OF:		DUP_OF:	

Parameter	Result	Val Qual	Qual Code
LEAD	5.7	J	M

Parameter	Result	Val Qual	Qual Code
LEAD	14.2		

Parameter	Result	Val Qual	Qual Code
LEAD	1.8	U	A

PROJ_NO: 00583

SDG: CTO056-6 MEDIA: WATER DATA FRACTION: M

nsample	PEN21GW7301	nsample	PEN21GW7401	nsample	PEN21GW7501
samp_date	5/10/2007	samp_date	5/10/2007	samp_date	5/10/2007
lab_id	SA2239-010	lab_id	SA2239-008	lab_id	SA2239-009
qc_type	NM	qc_type	NM	qc_type	NM
units	UG/L	units	UG/L	units	UG/L
Pct_Solids	0.0	Pct_Solids	0.0	Pct_Solids	0.0
DUP_OF:		DUP_OF:		DUP_OF:	

Parameter	Result	Val	Qual	Qual
		Qual	Qual	Code
LEAD	63.7			

Parameter	Result	Val	Qual	Qual
		Qual	Qual	Code
LEAD	31.4			

Parameter	Result	Val	Qual	Qual
		Qual	Qual	Code
LEAD	8.5			

PROJ_NO: 00583

SDG: CTO056-6 MEDIA: WATER DATA FRACTION: M

nsample PEN21GW7601
samp_date 5/10/2007
lab_id SA2239-006
qc_type NM
units UG/L
Pct_Solids 0.0

DUP_OF:

Parameter	Result	Val Qual	Qual Code
LEAD	27.1		

APPENDIX B
RESULTS AS REPORTED BY THE LABORATORY

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services

Client Field ID: PEN21GW31R01

Matrix: WATER

SDG Name: CTO056-6

Percent Solids: 0.00

Lab Sample ID: SA2239-007

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	Adjusted PQL	Adjusted IDL
7439-92-1	LEAD, TOTAL	5.7			P	1	5.0	0.91

Bottle ID: A

Comments:

FORM I - IN

Katahdin Analytical Services 4000007

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services

Client Field ID: PEN21GW46R01

Matrix: WATER

SDG Name: CTO056-6

Percent Solids: 0.00

Lab Sample ID: SA2239-011

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	Adjusted PQL	Adjusted IDL
7439-92-1	LEAD, TOTAL	14.2			P	1	5.0	0.91

Bottle ID: D

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services

Client Field ID: PEN21GW5401

Matrix: WATER

SDG Name: CTO056-6

Percent Solids: 0.00

Lab Sample ID: SA2239-005

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	Adjusted PQL	Adjusted IDL
7439-92-1	LEAD, TOTAL	1.8	I		P	1	5.0	0.91

Bottle ID: A

Comments:

FORM I - IN

Katahdin Analytical Services 4000005

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services

Client Field ID: PEN21GW7301

Matrix: WATER

SDG Name: CTO056-6

Percent Solids: 0.00

Lab Sample ID: SA2239-010

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	Adjusted PQL	Adjusted IDL
7439-92-1	LEAD, TOTAL	63.7			P	1	5.0	0.91

Bottle ID: D

Comments:

FORM I - IN

Katahdin Analytical Services 4000010

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services

Client Field ID: PEN21GW7401

Matrix: WATER

SDG Name: CTO056-6

Percent Solids: 0.00

Lab Sample ID: SA2239-008

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	Adjusted PQL	Adjusted IDL
7439-92-1	LEAD, TOTAL	31.4			P	1	5.0	0.91

Bottle ID: D

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services

Client Field ID: PEN21GW7501

Matrix: WATER

SDG Name: CTO056-6

Percent Solids: 0.00

Lab Sample ID: SA2239-009

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	Adjusted PQL	Adjusted IDL
7439-92-1	LEAD, TOTAL	8.5			P	1	5.0	0.91

Bottle ID: D

Comments:

FORM I - IN

Katahdin Analytical Services 4000009

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services

Client Field ID: PEN21GW7601

Matrix: WATER

SDG Name: CTO056-6

Percent Solids: 0.00

Lab Sample ID: SA2239-006

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	Adjusted PQL	Adjusted IDL
7439-92-1	LEAD, TOTAL	27.1			P	1	5.0	0.91

Bottle ID: D

Comments:



Tetra Tech NUS

INTERNAL CORRESPONDENCE

TO: G. WALKER **DATE:** FEBRUARY 16TH, 2009
FROM: MEGAN CARSON **COPIES:** DV FILE
SUBJECT: ORGANIC AND INORGANIC DATA VALIDATION- VOA AND METALS
CTO 056, NAS PENSACOLA
SDG BR004-003

SAMPLES: **18/Water/Metals via 6010B:**
NASP21-MW01-0109 NASP21-MW04-0109 NASP21-MW08-0109
NASP21-MW10-0109 NASP21-MW11-0109 NASP21-MW21-0109
NASP21-MW28-0109 NASP21-MW34-0109 NASP21-MW36-0109
NASP21-MW39-0109 NASP21-MW43-0109 NASP21-MW44-0109
NASP21-MW46R-0109 NASP21-MW48-0109 NASP21-MW61-0109
NASP21-MW69-0109 NASP21-MW73-0109 NASP21-MW73-0109-D
3/Water/VOA via 8260B:
NASP21-MW73-0109 NASP21-MW73-0109-D TB

OVERVIEW

The sample set for CTO 056 NAS Pensacola, SDG BR004-003 consists of twenty (20) aqueous samples and one trip blank. Samples were analyzed for volatile organic compounds, manganese, lead, and zinc. One field duplicate pair was included in this SDG: NASP21-MW73-0109/NASP21-MW73-0109-D.

The samples were collected by TetraTech NUS from January 7th, 2009 to January 8th, 2009 and analyzed by Environmental Conservation Laboratories Inc. All analyses were conducted in accordance with Naval Facilities Engineering Service Center (NFESC) Quality Assurance/Quality Control (QA/QC) criteria using EPA 8260B and 6010B analytical and reporting protocol. The data contained in this SDG were validated with regard to the following parameters:

- * • Data completeness
- * • Holding times
- Initial/continuing calibrations
- Laboratory method blank results
- * • Field Duplicate Results
- * • Detection limits

The symbol (*) indicates that quality control criteria were met for this parameter. Problems affecting data quality are discussed below; documentation supporting these findings is presented in Appendix C. Qualified Analytical results are presented in Appendix A. Results as reported by the laboratory are presented in Appendix B.

VOA:

All data was compliant with quality control criteria.

Metals:

The following analytes were detected in the method/preparation blank 9A14005-BLK1 at the following maximum concentration:

<u>Analyte</u>	<u>Concentration</u>	<u>Action Level</u>
Manganese (Mn)	0.6ug/kg	3.0ug/kg
Zinc (Zn)	3.3ug/kg	16.5ug/kg

An action level of 10X the maximum contaminant concentration (for Mn and Zn) was established to evaluate blank contamination. Dilution factors, %solids, and sample aliquots were taken into consideration during the application of all action levels. All samples in the SDG were affected. Positive results below the action level were qualified as undetected (U).

Additional Comments:

Positive results below the reporting limit (RL) but above the method detection limit (MDL) were qualified as estimated (J).

The initial calibration performed on JVGCMS2 on 12/30/08 had a percent relative standard deviation (RSD) greater than the quality control limit of 30% for methylene chloride. All samples in SDG were affected but none had positive results therefore, no validation action was warranted.

The continuing calibration performed on JVGCMS2 on 1/15/09 at 18:38 had a percent difference (%D) greater than the quality control limit of 25% for the following compounds: dichlorodifluoromethane, chloromethane, bromomethane, chloroethane, 1,1-dichloroethene, carbon tetrachloride, 1,2-dichloroethane, trans-1,3-dichloropropene, and tetrachloroethene. All samples in the SDG were affected but none had positive results therefore, no validation action was warranted.

EXECUTIVE SUMMARY

Laboratory Performance Issues: Method/preparation blank contamination which required qualification.

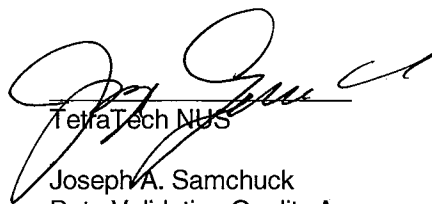
Other Factors Affecting Data Quality: None.

The data for these analyses were reviewed with reference to the EPA Functional Guidelines for Organic Data Validation (10/99) and the Department of Defense (DoD) Quality Systems Manual (QSM) (January 2006). The text of this report has been formulated to address only those problem areas affecting data quality.

"I attest that the data referenced herein were validated according to the agreed upon validation criteria as specified in the DoD QSM.


Tetra Tech NUS

Megan Carson
Chemist/Data Validator


Tetra Tech NUS

Joseph A. Samchuck
Data Validation Quality Assurance Officer

Attachments:

Appendix A – Qualified Analytical Results
Appendix B – Results as Reported by the Laboratory
Appendix C – Support Documentation

APPENDIX A

QUALIFIED ANALYTICAL RESULTS

PROJ_NO: 00583 SDG: BR004-003 FRACTION: OV MEDIA: WATER	NSAMPLE	NASP21-MW/3-0109		NASP21-MW/3-0109-D		TB			
	LAB_ID	B900139-17		B900139-18		B900139-19			
	SAMP_DATE	1/8/2009		1/8/2009		1/8/2009			
	QC_TYPE	NM		NM		NM			
	UNITS	UG/L		UG/L		UG/L			
PCT_SOLIDS									
DUP_OF			NASP21-MW/3-0109						
PARAMETER	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
1,1,1-TRICHLOROETHANE	0.35 U			0.35 U			0.35 U		
1,1,2,2-TETRACHLOROETHANE	0.19 U			0.19 U			0.19 U		
1,1,2-TRICHLOROETHANE	0.4 U			0.4 U			0.4 U		
1,1-DICHLOROETHANE	0.35 U			0.35 U			0.35 U		
1,1-DICHLOROETHENE	0.32 U			0.32 U			0.32 U		
1,2,4-TRICHLOROENZENE	0.13 U			0.13 U			0.13 U		
1,2-DIBROMOETHANE	0.12 U			0.12 U			0.12 U		
1,2-DICHLOROENZENE	0.4 U			0.4 U			0.4 U		
1,2-DICHLOROETHANE	0.44 U			0.44 U			0.44 U		
1,2-DICHLOROPROPANE	0.49 U			0.49 U			0.49 U		
1,3-DICHLOROENZENE	0.35 U			0.35 U			0.35 U		
1,4-DICHLOROENZENE	0.26 U			0.26 U			0.26 U		
2-CHLOROETHYL VINYL ETHER	1.5 U			1.5 U			1.5 U		
BENZENE	0.27 U			0.27 U			0.27 U		
BROMODICHLOROMETHANE	0.11 U			0.11 U			0.11 U		
BROMOFORM	0.26 U			0.26 U			0.26 U		
BROMOMETHANE	0.44 U			0.44 U			0.44 U		
CARBON TETRACHLORIDE	0.42 U			0.42 U			0.42 U		
CHLOROENZENE	0.23 U			0.23 U			0.23 U		
CHLOROETHANE	0.34 U			0.34 U			0.34 U		
CHLOROFORM	0.4 U			0.4 U			0.4 U		
CHLOROMETHANE	0.4 U			0.4 U			0.4 U		
CIS-1,2-DICHLOROETHENE	0.31 U			0.31 U			0.31 U		
CIS-1,3-DICHLOROPROPENE	0.28 U			0.28 U			0.28 U		
DICHLORODIFLUOROMETHANE	0.13 U			0.13 U			0.13 U		
ETHYLBENZENE	100			110			0.28 U		
METHYL TERT-BUTYL ETHER	0.23 U			0.23 U			0.23 U		
METHYLENE CHLORIDE	0.23 U			0.23 U			0.23 U		
TETRACHLOROETHENE	0.31 U			0.31 U			0.31 U		
TOLUENE	0.35 U			0.35 U			0.35 U		
TOTAL XYLENES	22			23			0.27 U		
TRANS-1,2-DICHLOROETHENE	0.46 U			0.46 U			0.46 U		
TRANS-1,3-DICHLOROPROPENE	0.27 U			0.27 U			0.27 U		
TRICHLOROETHENE	0.56 U			0.56 U			0.56 U		
TRICHLOROFLUOROMETHANE	0.41 U			0.41 U			0.41 U		
VINYL CHLORIDE	0.58 U			0.58 U			0.58 U		

PROJ_NO: 00563	NSAMPLE	NASP21-MW01-0109	NASP21-MW04-0109	NASP21-MW08-0109	NASP21-MW10-0109				
SDG: BR004-003	LAB_ID	B900139-15	B900139-13	B900139-12	B900139-10				
FRACTION: M	SAMP_DATE	1/8/2009	1/7/2009	1/7/2009	1/7/2009				
MEDIA: WATER	QC_TYPE	NM	NM	NM	NM				
	UNITS	UG/L	UG/L	UG/L	UG/L				
	PCT_SOLIDS								
	DUP_OF								
PARAMETER	RESULT	VOL	QLCD	RESULT	VOL	QLCD	RESULT	VOL	QLCD
LEAD	24.1			70.5			45.7		106
MANGANESE	153			8			11.6		2 U A
ZINC	28.3			88.9			951		175

PROJ_NO: 00583	NSAMPLE	NASP21-MW11-0109		NASP21-MW21-0109		NASP21-MW28-0109		NASP21-MW34-0109	
SDG: BR004-003	LAB_ID	B900139-11		B900139-06		B900139-08		B900139-07	
FRACTION: M	SAMP_DATE	1/7/2009		1/7/2009		1/7/2009		1/7/2009	
MEDIA: WATER	QC_TYPE	NM		NM		NM		NM	
	UNITS	UG/L		UG/L		UG/L		UG/L	
	PCT_SOLIDS								
	DUP_OF								
PARAMETER	RESULT	VOL	QLCD	RESULT	VOL	QLCD	RESULT	VOL	QLCD
LEAD	348			7.5			103		
MANGANESE	6.1			97.7			21.8		
ZINC	423			15.4 U	A		153		
								90.5	

PROJ_NO: 00583 SDG: BR004-003 FRACTION: M MEDIA: WATER	NSAMPLE	NASP21-MMW36-0109	NASP21-MMW39-0109			NASP21-MMW43-0109			NASP21-MMW44-0109			
	LAB_ID	B900139-04	B900139-03			B900139-05			B900139-09			
	SAMP_DATE	1/7/2009	1/7/2009			1/7/2009			1/7/2009			
	QC_TYPE	NM	NM			NM			NM			
	UNITS	UG/L	UG/L			UG/L			UG/L			
	PCT_SOLIDS											
	DUP_OF											
PARAMETER	RESULT	VOL	QLCD	RESULT	VOL	QLCD	RESULT	VOL	QLCD	RESULT	VOL	QLCD
LEAD	23.1			10.4			67.8			16.7		
MANGANESE	20.2			2 U	A		9.8			154		
ZINC	144			13.1 U	A		5.9 U	A		57.3		

PROJ_NO: 00583 SDG: BR004-003 FRACTION: M MEDIA: WATER	NSAMPLE	NASP21-MW46R-0109	NASP21-MW48-0109	NASP21-MW61-0109	NASP21-MW69-0109							
	LAB_ID	B900139-16	B900139-14	B900139-02	B900139-01							
	SAMP_DATE	1/8/2009	1/7/2009	1/7/2009	1/7/2009							
	QC_TYPE	NM	NM	NM	NM							
	UNITS	UG/L	UG/L	UG/L	UG/L							
	PCT_SOLIDS											
	DUP_OF											
PARAMETER	RESULT	VOL	QLCD	RESULT	VOL	QLCD	RESULT	VOL	QLCD			
LEAD	5.7			9.7			5.8			10.2		
MANGANESE	14.6			148			29.5			5.1		
ZINC	19			22.6			7.5 U	A		115		

PROJ_NO: 00583	NSAMPLE	NASP21-MMW73-0109	NASP21-MMW73-0109-D			
SDG: BR004-003	LAB_ID	B900139-17	B900139-18			
FRACTION: M	SAMP_DATE	1/8/2009	1/8/2009			
MEDIA: WATER	QC_TYPE	NM	NM			
	UNITS	UG/L	UG/L			
	PCT_SOLIDS					
	DUP_OF		NASP21-MMW73-0109			
PARAMETER	RESULT	VQL	QLCD	RESULT	VQL	QLCD
LEAD	43.1			44.3		
MANGANESE	3.9			4.1		
ZINC	3.3 U	A		3.1 U	A	

APPENDIX B

RESULTS AS REPORTED BY THE LABORATORY

ORGANIC ANALYSIS DATA SHEET

EPA 8260B

NASP21-MW73-0109

Laboratory: <u>ENCO Jacksonville</u>	SDG: <u>BR004-003</u>	
Client: <u>Tetra Tech NUS (BR004)</u>	Project: <u>CTO056 Pensacola</u>	
Matrix: <u>Ground Water</u>	Laboratory ID: <u>B900139-17</u>	File ID: <u>11AJ017.D</u>
Sampled: <u>01/08/09 08:35</u>	Prepared: <u>01/14/09 14:49</u>	Analyzed: <u>01/16/09 00:08</u>
Solids:	Preparation: <u>EPA 5030B MS</u>	Initial/Final: <u>5 mL / 5 mL</u>
Batch: <u>9A14018</u>	Sequence: <u>BA04248</u>	Calibration: <u>0901001</u>
		Instrument: <u>JVGCMS2</u>

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	1.0	U	0.13	1.0
74-87-3	Chloromethane	1	1.0	U	0.40	1.0
75-01-4	Vinyl chloride	1	1.0	U	0.58	1.0
74-83-9	Bromomethane	1	1.0	U	0.44	1.0
75-00-3	Chloroethane	1	1.0	U	0.34	1.0
75-69-4	Trichlorofluoromethane	1	1.0	U	0.41	1.0
75-35-4	1,1-Dichloroethene	1	1.0	U	0.32	1.0
75-09-2	Methylene chloride	1	1.0	U	0.23	1.0
1634-04-4	Methyl-tert-Butyl Ether	1	1.0	U	0.23	1.0
156-60-5	trans-1,2-Dichloroethene	1	1.0	U	0.46	1.0
75-34-3	1,1-Dichloroethane	1	1.0	U	0.35	1.0
156-59-2	cis-1,2-Dichloroethene	1	1.0	U	0.31	1.0
67-66-3	Chloroform	1	1.0	U	0.40	1.0
71-55-6	1,1,1-Trichloroethane	1	1.0	U	0.35	1.0
56-23-5	Carbon tetrachloride	1	1.0	U	0.42	1.0
107-06-2	1,2-Dichloroethane	1	1.0	U	0.44	1.0
71-43-2	Benzene	1	1.0	U	0.27	1.0
79-01-6	Trichloroethene	1	1.0	U	0.56	1.0
78-87-5	1,2-Dichloropropane	1	1.0	U	0.49	1.0
75-27-4	Bromodichloromethane	1	1.0	U	0.11	1.0
110-75-8	2-Chloroethyl Vinyl Ether	1	5.0	U	1.5	5.0
10061-01-5	cis-1,3-Dichloropropene	1	1.0	U	0.28	1.0
108-88-3	Toluene	1	1.0	U	0.35	1.0
10061-02-6	trans-1,3-Dichloropropene	1	1.0	U	0.27	1.0
79-00-5	1,1,2-Trichloroethane	1	1.0	U	0.40	1.0
127-18-4	Tetrachloroethene	1	1.0	U	0.31	1.0
106-93-4	1,2-Dibromoethane	1	1.0	U	0.12	1.0
108-90-7	Chlorobenzene	1	1.0	U	0.23	1.0
100-41-4	Ethylbenzene	1	100		0.28	1.0
75-25-2	Bromoform	1	1.0	U	0.26	1.0
79-34-5	1,1,2,2-Tetrachloroethane	1	1.0	U	0.19	1.0
541-73-1	1,3-Dichlorobenzene	1	1.0	U	0.35	1.0
106-46-7	1,4-Dichlorobenzene	1	1.0	U	0.26	1.0
95-50-1	1,2-Dichlorobenzene	1	1.0	U	0.40	1.0
120-82-1	1,2,4-Trichlorobenzene	1	1.0	U	0.13	1.0
NA	Xylenes (Total)	1	22		0.27	1.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	47	93	85 - 115	
Toluene-d8	50.0	50	101	85 - 120	
4-Bromofluorobenzene	50.0	60	119	75 - 120	

ORGANIC ANALYSIS DATA SHEET

EPA 8260B

NASP21-MW73-0109

Laboratory: ENCO Jacksonville SDG: BR004-003
Client: Tetra Tech NUS (BR004) Project: CTO056 Pensacola
Matrix: Ground Water Laboratory ID: B900139-17 File ID: 11AJ017.D
Sampled: 01/08/09 08:35 Prepared: 01/14/09 14:49 Analyzed: 01/16/09 00:08
Solids: Preparation: EPA 5030B MS Initial/Final: 5 mL / 5 mL
Batch: 9A14018 Sequence: BA04248 Calibration: 0901001 Instrument: JVGCMS2

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	222882	10.74	344699	10.78	
1,4-Difluorobenzene	294432	11.42	515102	11.45	
Chlorobenzene-d5	259848	14.67	467903	14.69	
1,4-Dichlorobenzene-d4	158023	16.92	240120	16.94	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260B

NASP21-MW73-0109-D

Laboratory: <u>ENCO Jacksonville</u>	SDG: <u>BR004-003</u>	
Client: <u>Tetra Tech NUS (BR004)</u>	Project: <u>CTO056 Pensacola</u>	
Matrix: <u>Ground Water</u>	Laboratory ID: <u>B900139-18</u>	File ID: <u>11AJ018.D</u>
Sampled: <u>01/08/09 08:35</u>	Prepared: <u>01/14/09 14:49</u>	Analyzed: <u>01/16/09 00:39</u>
Solids:	Preparation: <u>EPA 5030B MS</u>	Initial/Final: <u>5 mL / 5 mL</u>
Batch: <u>9A14018</u>	Sequence: <u>BA04248</u>	Calibration: <u>0901001</u>
		Instrument: <u>JVGCMS2</u>

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	1.0	U	0.13	1.0
74-87-3	Chloromethane	1	1.0	U	0.40	1.0
75-01-4	Vinyl chloride	1	1.0	U	0.58	1.0
74-83-9	Bromomethane	1	1.0	U	0.44	1.0
75-00-3	Chloroethane	1	1.0	U	0.34	1.0
75-69-4	Trichlorofluoromethane	1	1.0	U	0.41	1.0
75-35-4	1,1-Dichloroethene	1	1.0	U	0.32	1.0
75-09-2	Methylene chloride	1	1.0	U	0.23	1.0
1634-04-4	Methyl-tert-Butyl Ether	1	1.0	U	0.23	1.0
156-60-5	trans-1,2-Dichloroethene	1	1.0	U	0.46	1.0
75-34-3	1,1-Dichloroethane	1	1.0	U	0.35	1.0
156-59-2	cis-1,2-Dichloroethene	1	1.0	U	0.31	1.0
67-66-3	Chloroform	1	1.0	U	0.40	1.0
71-55-6	1,1,1-Trichloroethane	1	1.0	U	0.35	1.0
56-23-5	Carbon tetrachloride	1	1.0	U	0.42	1.0
107-06-2	1,2-Dichloroethane	1	1.0	U	0.44	1.0
71-43-2	Benzene	1	1.0	U	0.27	1.0
79-01-6	Trichloroethene	1	1.0	U	0.56	1.0
78-87-5	1,2-Dichloropropane	1	1.0	U	0.49	1.0
75-27-4	Bromodichloromethane	1	1.0	U	0.11	1.0
110-75-8	2-Chloroethyl Vinyl Ether	1	5.0	U	1.5	5.0
10061-01-5	cis-1,3-Dichloropropene	1	1.0	U	0.28	1.0
108-88-3	Toluene	1	1.0	U	0.35	1.0
10061-02-6	trans-1,3-Dichloropropene	1	1.0	U	0.27	1.0
79-00-5	1,1,2-Trichloroethane	1	1.0	U	0.40	1.0
127-18-4	Tetrachloroethene	1	1.0	U	0.31	1.0
106-93-4	1,2-Dibromoethane	1	1.0	U	0.12	1.0
108-90-7	Chlorobenzene	1	1.0	U	0.23	1.0
100-41-4	Ethylbenzene	1	110		0.28	1.0
75-25-2	Bromoform	1	1.0	U	0.26	1.0
79-34-5	1,1,2,2-Tetrachloroethane	1	1.0	U	0.19	1.0
541-73-1	1,3-Dichlorobenzene	1	1.0	U	0.35	1.0
106-46-7	1,4-Dichlorobenzene	1	1.0	U	0.26	1.0
95-50-1	1,2-Dichlorobenzene	1	1.0	U	0.40	1.0
120-82-1	1,2,4-Trichlorobenzene	1	1.0	U	0.13	1.0
NA	Xylenes (Total)	1	23		0.27	1.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	46	92	85 - 115	
Toluene-d8	50.0	46	91	85 - 120	
4-Bromofluorobenzene	50.0	57	115	75 - 120	

ORGANIC ANALYSIS DATA SHEET

EPA 8260B

NASP21-MW73-0109-D

Laboratory: ENCO Jacksonville SDG: BR004-003
 Client: Tetra Tech NUS (BR004) Project: CTO056 Pensacola
 Matrix: Ground Water Laboratory ID: B900139-18 File ID: 11AJ018.D
 Sampled: 01/08/09 08:35 Prepared: 01/14/09 14:49 Analyzed: 01/16/09 00:39
 Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL
 Batch: 9A14018 Sequence: BA04248 Calibration: 0901001 Instrument: JVGCMS2

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	211707	10.75	344699	10.78	
1,4-Difluorobenzene	308577	11.42	515102	11.45	
Chlorobenzene-d5	267368	14.66	467903	14.69	
1,4-Dichlorobenzene-d4	156841	16.92	240120	16.94	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260B

Trip Blank

Laboratory: ENCO Jacksonville SDG: BR004-003
 Client: Tetra Tech NUS (BR004) Project: CTO056 Pensacola
 Matrix: Ground Water Laboratory ID: B900139-19 File ID: 11AJ016.D
 Sampled: 01/08/09 00:00 Prepared: 01/14/09 14:49 Analyzed: 01/15/09 23:38
 Solids: Preparation: EPA 5030B MS Initial/Final: 5 mL / 5 mL
 Batch: 9A14018 Sequence: BA04248 Calibration: 0901001 Instrument: JVGCM52

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	MDL	MRL
75-71-8	Dichlorodifluoromethane	1	1.0	U	0.13	1.0
74-87-3	Chloromethane	1	1.0	U	0.40	1.0
75-01-4	Vinyl chloride	1	1.0	U	0.58	1.0
74-83-9	Bromomethane	1	1.0	U	0.44	1.0
75-00-3	Chloroethane	1	1.0	U	0.34	1.0
75-69-4	Trichlorofluoromethane	1	1.0	U	0.41	1.0
75-35-4	1,1-Dichloroethene	1	1.0	U	0.32	1.0
75-09-2	Methylene chloride	1	1.0	U	0.23	1.0
1634-04-4	Methyl-tert-Butyl Ether	1	1.0	U	0.23	1.0
156-60-5	trans-1,2-Dichloroethene	1	1.0	U	0.46	1.0
75-34-3	1,1-Dichloroethane	1	1.0	U	0.35	1.0
156-59-2	cis-1,2-Dichloroethene	1	1.0	U	0.31	1.0
67-66-3	Chloroform	1	1.0	U	0.40	1.0
71-55-6	1,1,1-Trichloroethane	1	1.0	U	0.35	1.0
56-23-5	Carbon tetrachloride	1	1.0	U	0.42	1.0
107-06-2	1,2-Dichloroethane	1	1.0	U	0.44	1.0
71-43-2	Benzene	1	1.0	U	0.27	1.0
79-01-6	Trichloroethene	1	1.0	U	0.56	1.0
78-87-5	1,2-Dichloropropane	1	1.0	U	0.49	1.0
75-27-4	Bromodichloromethane	1	1.0	U	0.11	1.0
110-75-8	2-Chloroethyl Vinyl Ether	1	5.0	U	1.5	5.0
10061-01-5	cis-1,3-Dichloropropene	1	1.0	U	0.28	1.0
108-88-3	Toluene	1	1.0	U	0.35	1.0
10061-02-6	trans-1,3-Dichloropropene	1	1.0	U	0.27	1.0
79-00-5	1,1,2-Trichloroethane	1	1.0	U	0.40	1.0
127-18-4	Tetrachloroethene	1	1.0	U	0.31	1.0
106-93-4	1,2-Dibromoethane	1	1.0	U	0.12	1.0
108-90-7	Chlorobenzene	1	1.0	U	0.23	1.0
100-41-4	Ethylbenzene	1	1.0	U	0.28	1.0
75-25-2	Bromoform	1	1.0	U	0.26	1.0
79-34-5	1,1,2,2-Tetrachloroethane	1	1.0	U	0.19	1.0
541-73-1	1,3-Dichlorobenzene	1	1.0	U	0.35	1.0
106-46-7	1,4-Dichlorobenzene	1	1.0	U	0.26	1.0
95-50-1	1,2-Dichlorobenzene	1	1.0	U	0.40	1.0
120-82-1	1,2,4-Trichlorobenzene	1	1.0	U	0.13	1.0
NA	Xylenes (Total)	1	1.0	U	0.27	1.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	45	91	85 - 115	
Toluene-d8	50.0	47	95	85 - 120	
4-Bromofluorobenzene	50.0	55	109	75 - 120	

ORGANIC ANALYSIS DATA SHEET

EPA 8260B

Trip Blank

Laboratory: ENCO Jacksonville SDG: BR004-003
 Client: Tetra Tech NUS (BR004) Project: CTO056 Pensacola
 Matrix: Ground Water Laboratory ID: B900139-19 File ID: 11AJ016.D
 Sampled: 01/08/09 00:00 Prepared: 01/14/09 14:49 Analyzed: 01/15/09 23:38
 Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL
 Batch: 9A14018 Sequence: BA04248 Calibration: 0901001 Instrument: JVGCMS2

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	222149	10.74	344699	10.78	
1,4-Difluorobenzene	308429	11.42	515102	11.45	
Chlorobenzene-d5	273042	14.67	467903	14.69	
1,4-Dichlorobenzene-d4	159471	16.92	240120	16.94	

* Values outside of QC limits

INORGANIC ANALYSIS DATA SHEET

EPA 6010B

NASP21-MW01-0109

Laboratory: ENCO Jacksonville

SDG: BR004-003

Client: Tetra Tech NUS (BR004)

Project: CTO056 Pensacola

Matrix: Ground Water

Laboratory ID: B900139-15

File ID: 011509a-040

Sampled: 01/08/09 09:20

Prepared: 01/14/09 10:25

Analyzed: 01/16/09 11:13

Solids: 0.00

Preparation: EPA 200.7

Initial/Final: 50 mL / 50 mL

Batch: 9A14005

Sequence:

BA04251

Calibration: 0901008

Instrument: JICP2

CAS NO.	Analyte	Concentration (ug/L)	Dilution Factor	Q	MDL	MRL	Method
7439-92-1	Lead	24.1	1		2.5	10.0	EPA 6010B
7439-96-5	Manganese	153	1		0.5	10.0	EPA 6010B
7440-66-6	Zinc	28.3	1		2.4	20.0	EPA 6010B

INORGANIC ANALYSIS DATA SHEET

EPA 6010B

NASP21-MW04-0109

Laboratory: ENCO Jacksonville

SDG: BR004-003

Client: Tetra Tech NUS (BR004)

Project: CTO056 Pensacola

Matrix: Ground Water

Laboratory ID: B900139-13

File ID: 011509a-038

Sampled: 01/07/09 09:50

Prepared: 01/14/09 10:25

Analyzed: 01/16/09 11:08

Solids: 0.00

Preparation: EPA 200.7

Initial/Final: 50 mL / 50 mL

Batch: 9A14005

Sequence:

BA04251

Calibration: 0901008

Instrument: JICP2

CAS NO.	Analyte	Concentration (ug/L)	Dilution Factor	Q	MDL	MRL	Method
7439-92-1	Lead	70.5	1		2.5	10.0	EPA 6010B
7439-96-5	Manganese	8.0	1	J	0.5	10.0	EPA 6010B
7440-66-6	Zinc	88.9	1		2.4	20.0	EPA 6010B

INORGANIC ANALYSIS DATA SHEET

EPA 6010B

NASP21-MW08-0109

Laboratory: ENCO Jacksonville

SDG: BR004-003

Client: Tetra Tech NUS (BR004)

Project: CTO056 Pensacola

Matrix: Ground Water

Laboratory ID: B900139-12

File ID: 011509a-037

Sampled: 01/07/09 10:25

Prepared: 01/14/09 10:25

Analyzed: 01/16/09 11:06

Solids: 0.00

Preparation: EPA 200.7

Initial/Final: 50 mL / 50 mL

Batch: 9A14005

Sequence:

BA04251

Calibration: 0901008

Instrument: JICP2

CAS NO.	Analyte	Concentration (ug/L)	Dilution Factor	Q	MDL	MRL	Method
7439-92-1	Lead	45.7	1		2.5	10.0	EPA 6010B
7439-96-5	Manganese	11.6	1		0.5	10.0	EPA 6010B
7440-66-6	Zinc	951	1		2.4	20.0	EPA 6010B

INORGANIC ANALYSIS DATA SHEET

EPA 6010B

NASP21-MW10-0109

Laboratory: ENCO JacksonvilleSDG: BR004-003Client: Tetra Tech NUS (BR004)Project: CTO056 PensacolaMatrix: Ground WaterLaboratory ID: B900139-10File ID: 011509a-032Sampled: 01/07/09 11:40Prepared: 01/14/09 10:25Analyzed: 01/16/09 10:55Solids: 0.00Preparation: EPA 200.7Initial/Final: 50 mL / 50 mLBatch: 9A14005

Sequence:

BA04251Calibration: 0901008Instrument: JICP2

CAS NO.	Analyte	Concentration (ug/L)	Dilution Factor	Q	MDL	MRL	Method
7439-92-1	Lead	106	1		2.5	10.0	EPA 6010B
7439-96-5	Manganese	2.0	1	J	0.5	10.0	EPA 6010B
7440-66-6	Zinc	175	1		2.4	20.0	EPA 6010B

INORGANIC ANALYSIS DATA SHEET

EPA 6010B

NASP21-MW11-0109

Laboratory: ENCO Jacksonville

SDG: BR004-003

Client: Tetra Tech NUS (BR004)

Project: CTO056 Pensacola

Matrix: Ground Water

Laboratory ID: B900139-11

File ID: 011509a-033

Sampled: 01/07/09 11:05

Prepared: 01/14/09 10:25

Analyzed: 01/16/09 10:57

Solids: 0.00

Preparation: EPA 200.7

Initial/Final: 50 mL / 50 mL

Batch: 9A14005

Sequence:

BA04251

Calibration: 0901008

Instrument: JICP2

CAS NO.	Analyte	Concentration (ug/L)	Dilution Factor	Q	MDL	MRL	Method
7439-92-1	Lead	348	1		2.5	10.0	EPA 6010B
7439-96-5	Manganese	6.1	1	J	0.5	10.0	EPA 6010B
7440-66-6	Zinc	423	1		2.4	20.0	EPA 6010B

INORGANIC ANALYSIS DATA SHEET
EPA 6010B

NASP21-MW21-0109

Laboratory: ENCO Jacksonville

SDG: BR004-003

Client: Tetra Tech NUS (BR004)

Project: CTO056 Pensacola

Matrix: Ground Water

Laboratory ID: B900139-06

File ID: 011509a-028

Sampled: 01/07/09 15:05

Prepared: 01/14/09 10:25

Analyzed: 01/16/09 10:46

Solids: 0.00

Preparation: EPA 200.7

Initial/Final: 50 mL / 50 mL

Batch: 9A14005

Sequence: BA04251

Calibration: 0901008

Instrument: JICP2

CAS NO.	Analyte	Concentration (ug/L)	Dilution Factor	Q	MDL	MRL	Method
7439-92-1	Lead	7.5	1	J	2.5	10.0	EPA 6010B
7439-96-5	Manganese	97.7	1		0.5	10.0	EPA 6010B
7440-66-6	Zinc	15.4	1	J	2.4	20.0	EPA 6010B

INORGANIC ANALYSIS DATA SHEET

EPA 6010B

NASP21-MW28-0109

Laboratory: ENCO Jacksonville

SDG: BR004-003

Client: Tetra Tech NUS (BR004)

Project: CTO056 Pensacola

Matrix: Ground Water

Laboratory ID: B900139-08

File ID: 011509a-030

Sampled: 01/07/09 13:20

Prepared: 01/14/09 10:25

Analyzed: 01/16/09 10:50

Solids: 0.00

Preparation: EPA 200.7

Initial/Final: 50 mL / 50 mL

Batch: 9A14005

Sequence:

BA04251

Calibration: 0901008

Instrument: JICP2

CAS NO.	Analyte	Concentration (ug/L)	Dilution Factor	Q	MDL	MRL	Method
7439-92-1	Lead	103	1		2.5	10.0	EPA 6010B
7439-96-5	Manganese	21.8	1		0.5	10.0	EPA 6010B
7440-66-6	Zinc	153	1		2.4	20.0	EPA 6010B

INORGANIC ANALYSIS DATA SHEET

EPA 6010B

NASP21-MW34-0109

Laboratory: ENCO JacksonvilleSDG: BR004-003Client: Tetra Tech NUS (BR004)Project: CTO056 PensacolaMatrix: Ground WaterLaboratory ID: B900139-07File ID: 011509a-029Sampled: 01/07/09 14:00Prepared: 01/14/09 10:25Analyzed: 01/16/09 10:48Solids: 0.00Preparation: EPA 200.7Initial/Final: 50 mL / 50 mLBatch: 9A14005Sequence: BA04251Calibration: 0901008Instrument: JICP2

CAS NO.	Analyte	Concentration (ug/L)	Dilution Factor	Q	MDL	MRL	Method
7439-92-1	Lead	10.0	1	U	2.5	10.0	EPA 6010B
7439-96-5	Manganese	187	1		0.5	10.0	EPA 6010B
7440-66-6	Zinc	90.5	1		2.4	20.0	EPA 6010B

INORGANIC ANALYSIS DATA SHEET

EPA 6010B

NASP21-MW36-0109

Laboratory: ENCO JacksonvilleSDG: BR004-003Client: Tetra Tech NUS (BR004)Project: CTO056 PensacolaMatrix: Ground WaterLaboratory ID: B900139-04File ID: Q11509a-026Sampled: 01/07/09 12:15Prepared: 01/14/09 10:25Analyzed: 01/16/09 10:41Solids: 0.00Preparation: EPA 200.7Initial/Final: 50 mL / 50 mLBatch: 9A14005Sequence: BA04251Calibration: 0901008Instrument: JICP2

CAS NO.	Analyte	Concentration (ug/L)	Dilution Factor	Q	MDL	MRL	Method
7439-92-1	Lead	23.1	1		2.5	10.0	EPA 6010B
7439-96-5	Manganese	20.2	1		0.5	10.0	EPA 6010B
7440-66-6	Zinc	144	1		2.4	20.0	EPA 6010B

INORGANIC ANALYSIS DATA SHEET

EPA 6010B

NASP21-MW39-0109

Laboratory: ENCO JacksonvilleSDG: BR004-003Client: Tetra Tech NUS (BR004)Project: CTO056 PensacolaMatrix: Ground WaterLaboratory ID: B900139-03File ID: 011509a-025Sampled: 01/07/09 09:35Prepared: 01/14/09 10:25Analyzed: 01/16/09 10:39Solids: 0.00Preparation: EPA 200.7Initial/Final: 50 mL / 50 mLBatch: 9A14005

Sequence:

BA04251Calibration: 0901008Instrument: JICP2

CAS NO.	Analyte	Concentration (ug/L)	Dilution Factor	Q	MDL	MRL	Method
7439-92-1	Lead	10.4	1		2.5	10.0	EPA 6010B
7439-96-5	Manganese	2.0	1	J	0.5	10.0	EPA 6010B
7440-66-6	Zinc	13.1	1	J	2.4	20.0	EPA 6010B

INORGANIC ANALYSIS DATA SHEET

EPA 6010B

NASP21-MW43-0109

Laboratory: ENCO JacksonvilleSDG: BR004-003Client: Tetra Tech NUS (BR004)Project: CTO056 PensacolaMatrix: Ground WaterLaboratory ID: B900139-05File ID: 011509a-027Sampled: 01/07/09 15:55Prepared: 01/14/09 10:25Analyzed: 01/16/09 10:43Solids: 0.00Preparation: EPA 200.7Initial/Final: 50 mL / 50 mLBatch: 9A14005Sequence: BA04251Calibration: 0901008Instrument: JICP2

CAS NO.	Analyte	Concentration (ug/L)	Dilution Factor	Q	MDL	MRL	Method
7439-92-1	Lead	67.8	1		2.5	10.0	EPA 6010B
7439-96-5	Manganese	9.8	1	J	0.5	10.0	EPA 6010B
7440-66-6	Zinc	5.9	1	J	2.4	20.0	EPA 6010B

INORGANIC ANALYSIS DATA SHEET

EPA 6010B

NASP21-MW44-0109

Laboratory: ENCO JacksonvilleSDG: BR004-003Client: Tetra Tech NUS (BR004)Project: CTO056 PensacolaMatrix: Ground WaterLaboratory ID: B900139-09File ID: 011509a-031Sampled: 01/07/09 12:15Prepared: 01/14/09 10:25Analyzed: 01/16/09 10:52Solids: 0.00Preparation: EPA 200.7Initial/Final: 50 mL / 50 mLBatch: 9A14005Sequence: BA04251Calibration: 0901008Instrument: JICP2

CAS NO.	Analyte	Concentration (ug/L)	Dilution Factor	Q	MDL	MRL	Method
7439-92-1	Lead	16.7	1		2.5	10.0	EPA 6010B
7439-96-5	Manganese	154	1		0.5	10.0	EPA 6010B
7440-66-6	Zinc	57.3	1		2.4	20.0	EPA 6010B

INORGANIC ANALYSIS DATA SHEET

EPA 6010B

NASP21-MW46R-0109

Laboratory: ENCO JacksonvilleSDG: BR004-003Client: Tetra Tech NUS (BR004)Project: CTO056 PensacolaMatrix: Ground WaterLaboratory ID: B900139-16File ID: 011509a-041Sampled: 01/08/09 08:30Prepared: 01/14/09 10:25Analyzed: 01/16/09 11:15Solids: 0.00Preparation: EPA 200.7Initial/Final: 50 mL / 50 mLBatch: 9A14005

Sequence:

BA04251Calibration: 0901008Instrument: JICP2

CAS NO.	Analyte	Concentration (ug/L)	Dilution Factor	Q	MDL	MRL	Method
7439-92-1	Lead	5.7	1	J	2.5	10.0	EPA 6010B
7439-96-5	Manganese	14.6	1		0.5	10.0	EPA 6010B
7440-66-6	Zinc	19.0	1	J	2.4	20.0	EPA 6010B

INORGANIC ANALYSIS DATA SHEET

EPA 6010B

NASP21-MW48-0109

Laboratory: ENCO JacksonvilleSDG: BR004-003Client: Tetra Tech NUS (BR004)Project: CTO056 PensacolaMatrix: Ground WaterLaboratory ID: B900139-14File ID: 011509a-039Sampled: 01/07/09 16:45Prepared: 01/14/09 10:25Analyzed: 01/16/09 11:10Solids: 0.00Preparation: EPA 200.7Initial/Final: 50 mL / 50 mLBatch: 9A14005Sequence: BA04251Calibration: 0901008Instrument: JICP2

CAS NO.	Analyte	Concentration (ug/L)	Dilution Factor	Q	MDL	MRL	Method
7439-92-1	Lead	9.7	1	J	2.5	10.0	EPA 6010B
7439-96-5	Manganese	148	1		0.5	10.0	EPA 6010B
7440-66-6	Zinc	22.6	1		2.4	20.0	EPA 6010B

INORGANIC ANALYSIS DATA SHEET

EPA 6010B

NASP21-MW61-0109

Laboratory: ENCO JacksonvilleSDG: BR004-003Client: Tetra Tech NUS (BR004)Project: CTO056 PensacolaMatrix: Ground WaterLaboratory ID: B900139-02File ID: 011509a-024Sampled: 01/07/09 10:35Prepared: 01/14/09 10:25Analyzed: 01/16/09 10:36Solids: 0.00Preparation: EPA 200.7Initial/Final: 50 mL / 50 mLBatch: 9A14005

Sequence:

BA04251Calibration: 0901008Instrument: JICP2

CAS NO.	Analyte	Concentration (ug/L)	Dilution Factor	Q	MDL	MRL	Method
7439-92-1	Lead	5.8	1	J	2.5	10.0	EPA 6010B
7439-96-5	Manganese	29.5	1		0.5	10.0	EPA 6010B
7440-66-6	Zinc	7.5	1	J	2.4	20.0	EPA 6010B

INORGANIC ANALYSIS DATA SHEET

EPA 6010B

NASP21-MW69-0109

Laboratory: ENCO Jacksonville

SDG: BR004-003

Client: Tetra Tech NUS (BR004)

Project: CTO056 Pensacola

Matrix: Ground Water

Laboratory ID: B900139-01

File ID: 011509a-019

Sampled: 01/07/09 11:25

Prepared: 01/14/09 10:25

Analyzed: 01/16/09 10:17

Solids: 0.00

Preparation: EPA 200.7

Initial/Final: 50 mL / 50 mL

Batch: 9A14005

Sequence:

BA04251

Calibration: 0901008

Instrument: JICP2

CAS NO.	Analyte	Concentration (ug/L)	Dilution Factor	Q	MDL	MRL	Method
7439-92-1	Lead	10.2	1		2.5	10.0	EPA 6010B
7439-96-5	Manganese	5.1	1	J	0.5	10.0	EPA 6010B
7440-66-6	Zinc	115	1		2.4	20.0	EPA 6010B

INORGANIC ANALYSIS DATA SHEET
EPA 6010B

NASP21-MW73-0109

Laboratory: ENCO Jacksonville

SDG: BR004-003

Client: Tetra Tech NUS (BR004)

Project: CTO056 Pensacola

Matrix: Ground Water

Laboratory ID: B900139-17

File ID: 011509a-042

Sampled: 01/08/09 08:35

Prepared: 01/14/09 10:25

Analyzed: 01/16/09 11:17

Solids: 0.00

Preparation: EPA 200.7

Initial/Final: 50 mL / 50 mL

Batch: 9A14005

Sequence: BA04251

Calibration: 0901008

Instrument: JICP2

CAS NO.	Analyte	Concentration (ug/L)	Dilution Factor	Q	MDL	MRL	Method
7439-92-1	Lead	43.1	1		2.5	10.0	EPA 6010B
7439-96-5	Manganese	3.9	1	J	0.5	10.0	EPA 6010B
7440-66-6	Zinc	3.3	1	J	2.4	20.0	EPA 6010B

INORGANIC ANALYSIS DATA SHEET

EPA 6010B

NASP21-MW73-0109-D

Laboratory: ENCO Jacksonville

SDG: BR004-003

Client: Tetra Tech NUS (BR004)

Project: CTO056 Pensacola

Matrix: Ground Water

Laboratory ID: B900139-18

File ID: 011509a-043

Sampled: 01/08/09 08:35

Prepared: 01/14/09 10:25

Analyzed: 01/16/09 11:20

Solids: 0.00

Preparation: EPA 200.7

Initial/Final: 50 mL / 50 mL

Batch: 9A14005

Sequence:

BA04251

Calibration: 0901008

Instrument: JICP2

CAS NO.	Analyte	Concentration (ug/L)	Dilution Factor	Q	MDL	MRL	Method
7439-92-1	Lead	44.3	1		2.5	10.0	EPA 6010B
7439-96-5	Manganese	4.1	1	J	0.5	10.0	EPA 6010B
7440-66-6	Zinc	3.1	1	J	2.4	20.0	EPA 6010B

APPENDIX C
LEAD POPULATION ASSESSMENT

Introduction

This document describes the statistical techniques used to determine whether the lead (Pb) found in NASP Site 22 groundwater is attributable to background or site contamination.

Source Data

All sampling events which tested groundwater samples for Pb at Site 22 were in the analyses (spanning a time frame of April, 1997 to January 2009). The dataset consists of 119 samples, split into seven different sampling events. Of these seven events, five contain a sufficient number of samples to perform the required statistics (at least 107 samples). The five sampling events are April 1997, June 2000, December 2004, May 2007, and January 2009.

Approach

The approach to the evaluation of Pb in groundwater consists of the following elements, which are discussed in further detail below:

Population modeling – this technique evaluates 1) the statistical distribution of the Pb through calculation of the best measure of central tendency, which can then be used as a point comparison between events to assess if a change in overall Pb concentration is occurring; 2) a statistical comparison of the statistical distribution of Pb to define whether there is a significant difference between sampling events; 3) An evaluation of the trend of the central tendency measurements between events to assess if there is an overall decrease in Pb across the site 4) an outlier analysis of each sampling event using normal probability plots to define break points in slope that indicate samples that fall out of the general distribution and can be considered outliers.

Geochemical Assessment – this technique uses linear regression to assess the degree of correlation between Pb and Mn, a commonly occurring but non-site related inorganic. Zn (another independent non-site related inorganic) was used to determine if there was a correlation with Mn and to define if there was non-ordinary Mn enrichment. Correlations between Pb and Mn would suggest that the Pb may be naturally occurring, whereas low correlations between the two would suggest that the Pb is site-related.

Population Modeling:

Population modeling was performed to Site 22 to explicate 1) if a significant difference exists between sampling events; 2) Is there a temporal difference between the measures of central tendency over time?; and 3) using the central tendency for each sampling event, is there an overall trend?

The statistical approach is designed to answer a number of questions, which, when answered, would elucidate whether the Pb found is background or true contamination.

The premise behind defining internal structure to the data is that contaminated sites exhibit biased sampling and generally exhibit positively-skewed lognormal or gamma distributions (EPA, 1997), which is caused by the presence of true contamination (elevated values) along with unimpacted samples. Generally, the identification and elimination of these elevated values (outliers) will result in a less skewed lognormal or a normal distribution. Therefore, if outliers can be identified in the Site 22 dataset, the evaluation results can provide a relative basis for targeting true contamination that should be used to evaluate remedial path(s) forward. The distribution and 95% Upper Confidence Limit (UCL) measure of central tendency of all the sampling events datasets was determined using the EPA software ProUCL.

Determining the presence/absence of a trend over time in the measures of central tendency of the individual datasets is useful to assess the historical changes and can provide a predictive tool. To determine the appropriate measure of central tendency, the EPA software ProUCL at a 95% confidence level was used. Determination of the presence of a trend in the measures of central tendency over time was performed using the non-parametric Mann-Kendall test. Similar to defining the presence or absence of a trend, determining the presence/absence of a significant difference is used to assess the elevated lead occurrence over time, and was performed using the Kolmogorov-Smirnoff statistical test at a significance level of 95% .

Geochemical Analysis:

Linear regression can be used to define the presence and degree of a correlative relationship between two variables. In this case, the objective of the analysis was to determine if a relationship exists between Pb (a potential site-related parameter) and a non-site related but geochemically similar inorganic (Mn) in groundwater at Site 22. The theory behind the use of linear regression to define a correlation between geochemically similar parameters is defined in Thorbjornsen and Myers (2007), and is consistent with the techniques included in Guidance for Environmental Background Analysis (NAVFAC, 2004) for soil and sediments. In this analysis, linear regression was used to determine if a correlative relationship exists between Pb and Mn in groundwater. The premise of the analysis is that Mn is not a site contaminant, and therefore a correlation between Pb and Mn would suggest that elevated Pb (above regulatory thresholds) is due to natural geochemical occurrence. The potential for Mn outliers (samples enriched with respect to Mn) was tested through analysis of its correlative occurrence with Zn, another non-site related but geochemically similar inorganic.

Statistical Analysis

This section will supply a short summary of the statistical tests applied to Site 22.

Population Modeling

1. All estimated results (J) were eliminated from dataset (is this true?)
2. All undetected results (U) were divided into half

3. Each sampling event was run through ProUCL to define the internal structure and the central tendency of the event
4. All lead concentrations were log transformed due to the internal lognormal-gamma structure illuminated by ProUCL.
5. Normal probability plots were created for each event's log-normal sampling data distribution for the definition of outliers.
6. Trend analysis was performed using the changes in the 95% UCLs measures of central tendencies –the technique utilized the Mann-Kendall (MK) analysis at a confidence level of 80%.
7. When enough samples were in the datasets (at least 10 samples are needed), sequential population differential testing the Kolmogorov-Smirnov (KS) tests – these tests provide a measure of the probability of the lack of a significant difference (or conversely a lack of similarities) of the distributions between data sets – a probability level of 90% is used in these analyses to indicate unequivocal similarity or difference;

Geostatistical Modeling:

1. All estimated results (J) were used as true values for the Pb, Mn, and Zn datasets
2. All undetected results (U) were divided into half
3. The raw data was plotted
 - a. Zn vs Mn
 - b. Pb vs Mn
4. The raw data was then Log-Transformed and plotted
 - a. Zn vs Mn
 - b. Pb vs Mn

Results

Table 1: Results from ProUCL.

Sampling Event	Central Tendency for Pb (ug/L)	UCL Distributions
Apr-97	49.83	Lognormal-gamma
Jun-00	76.97	No discernable distribution
Feb-03	N/A	Lognormal-gamma
Dec-04	154.4	Lognormal-gamma
Mar-05	771.3	Lognormal-gamma
May-07	125.7	Lognormal-gamma
Jan-09	91.05	Lognormal-gamma

The results indicate that in general the best measure of central tendency can be calculated from a log-normal assumption of data distribution. The range of the central tendencies using the log-normal distributions is 49.83 ug/L – 771.3 ug/L. Table 2 presents the trend analysis results utilizing these values:

Table 2: Central Tendency MK Trend Analysis Results at 80% Confidence

Mann Kendall Statistic (S) =	5.0
Number of Rounds (n) =	6

Average =	211.54
Standard Deviation =	276.674
Coefficient of Variation(CV)=	1.308
Trend \geq 80% Confidence Level	No Trend
Trend \geq 90% Confidence Level	No Trend
Stability Test, If No Trend Exists at	CV > 1
80% Confidence Level	NON-STABLE

The MK analysis indicates there is no defineable trend in the measures of central tendency, therefore there are no significant temporal changes in overall Pb concentrations during the sampling history, and indicating no significant attenuation or augmentation is occurring. Additionally, the analysis indicates that there is significant variation in the data scatter, suggesting that perturbations in natural environmental factors (such as seasonal changes in water levels) are impacting the resulting Pb concentrations.

Table 3 presents the analysis used to determine if there is a statistically significant difference (95% confidence) in the distribution of Pb between sampling events:

Table3: Results from Kolmogorov-Smirnov test

Sample Events Compared	Significant difference @ 95% confidence?
April 1997 vs. June 2000	No
April 97 vs. December 2004	No
April 1997 vs. May 2007	No
April 1997 vs. January 2009	No
June 2000 vs. December 2004	No
June 2000 vs. May 2007	No
June 2000 vs. Jan 2009	No
December 2004 vs. May 2007	No
December 2004 vs. January 2009	No
May 2007 vs. January 2009	No

As noted, there are no significant differences between the Pb distributions over the sampling history. This clearly indicates that while no decrease in Pb in groundwater is occurring, no significant additional source of Pb is being introduced.

The cumulative probability plots for each sampling event are shown in Figures 1 through 7:

Figure 1: Cumulative Normal Probability Plot for all Pb data

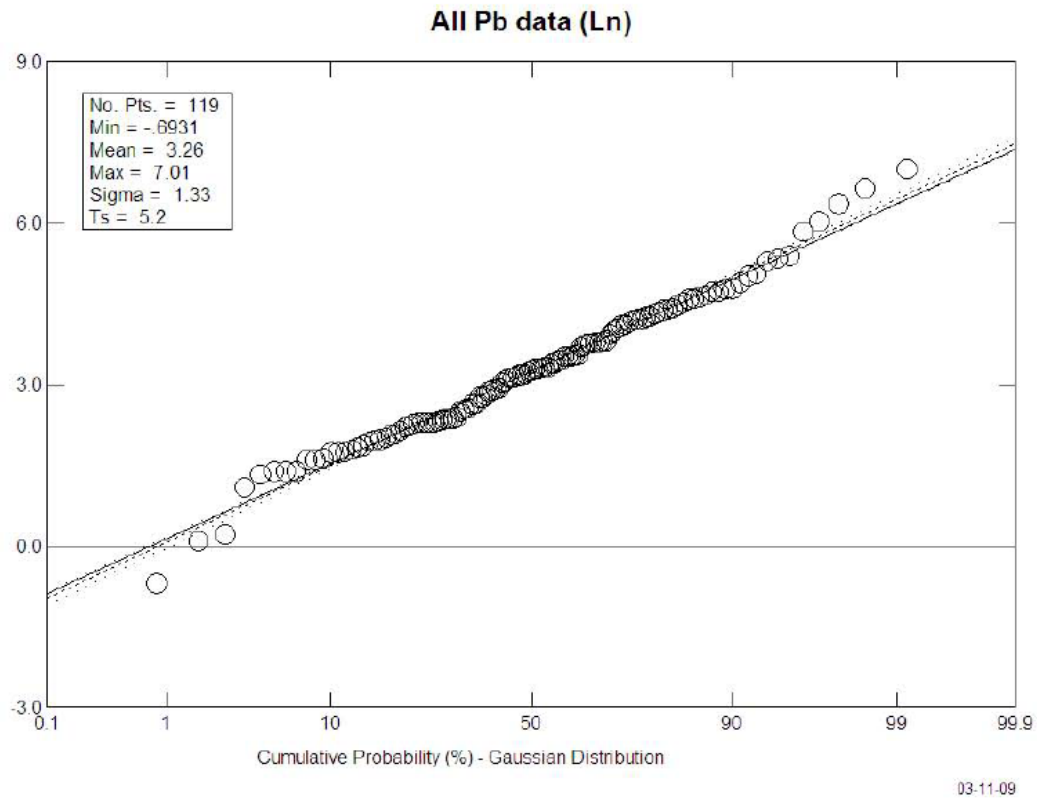


Figure 2. Cumulative Normal Probability Plot for April 1997

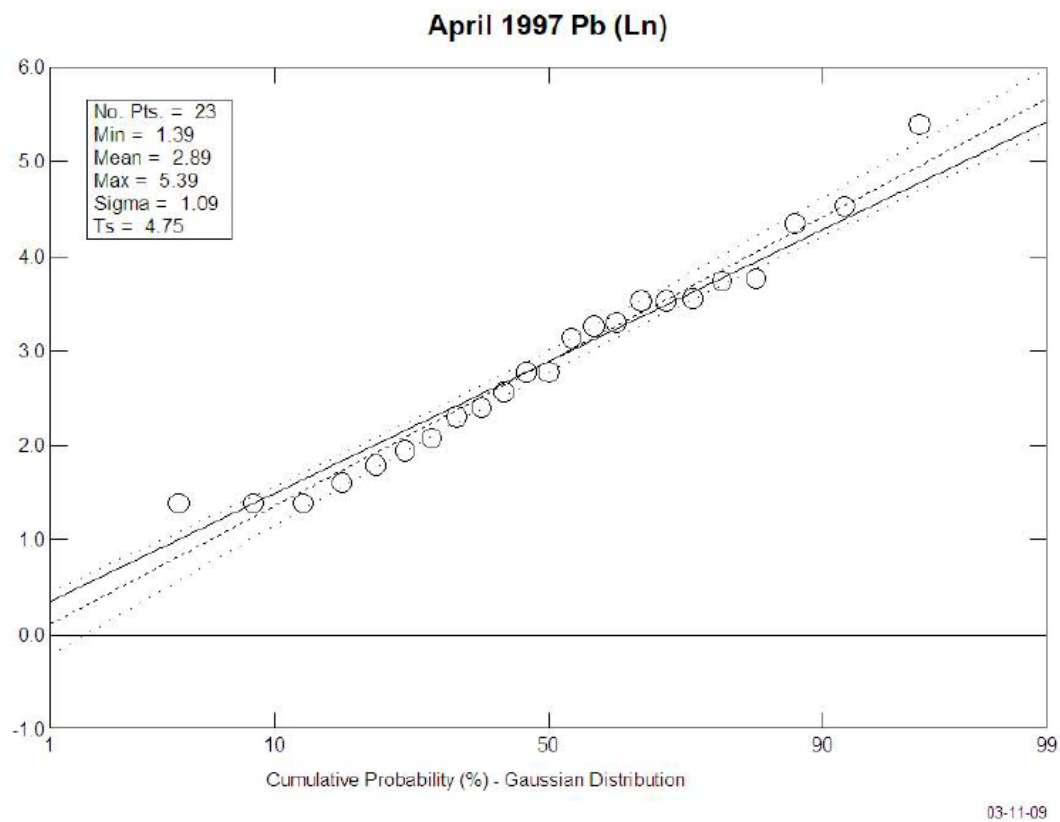


Figure 3. Cumulative Normal Probability Plot for Feb 2003

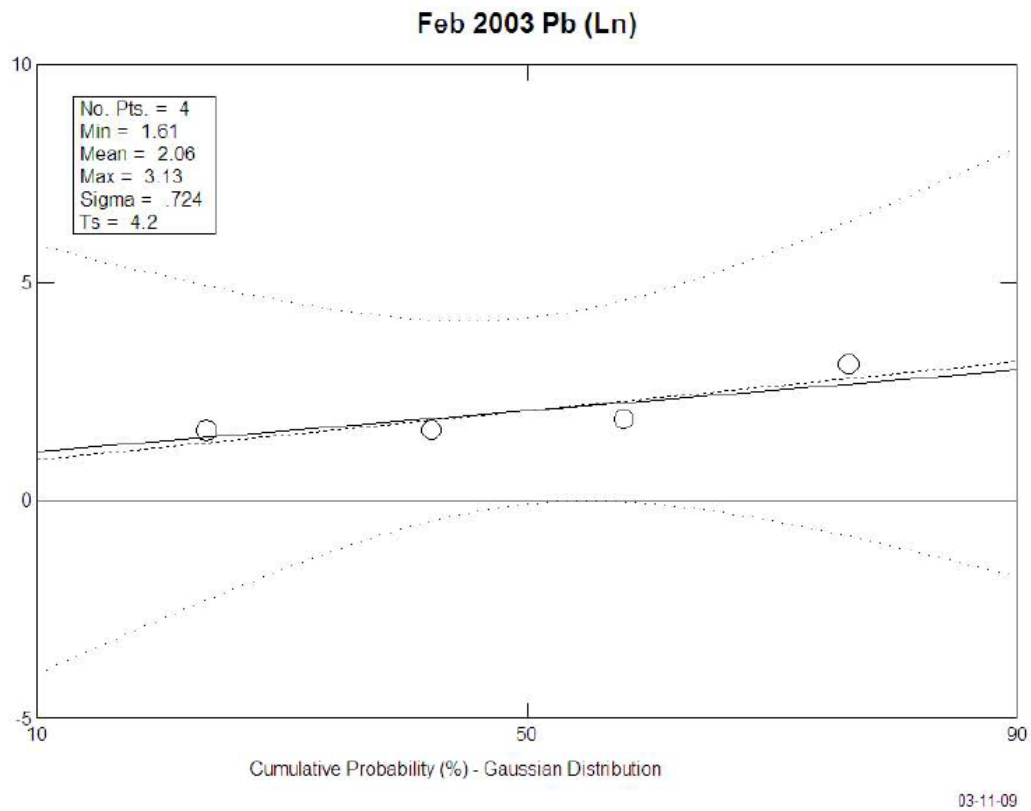


Figure 4. Cumulative Normal Probability Plot for Dec 2004

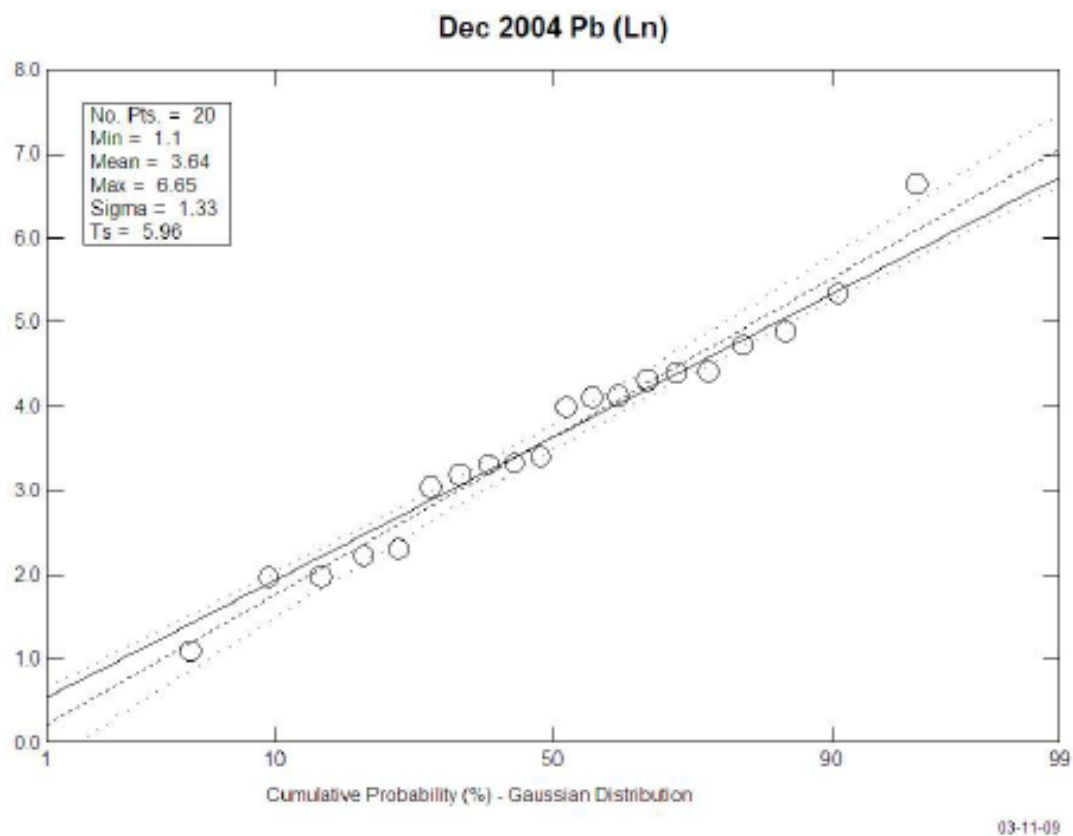


Figure 5. Cumulative Normal Probability Plot for March 2005

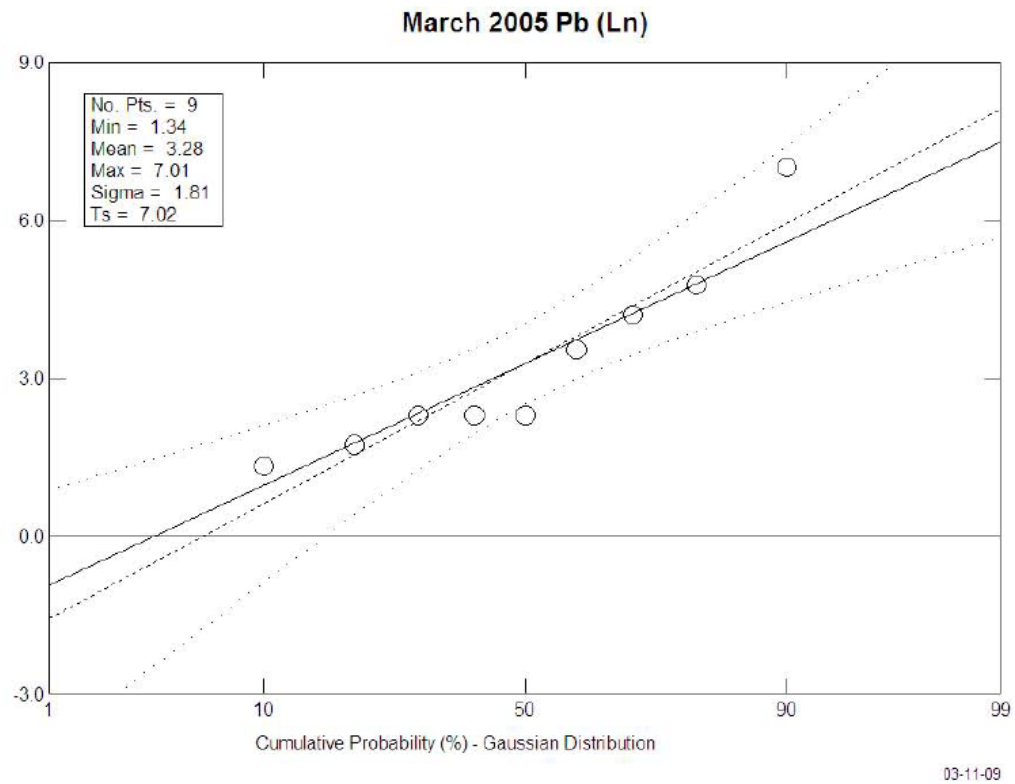


Figure 6. Cumulative Normal Probability Plot for May 2007

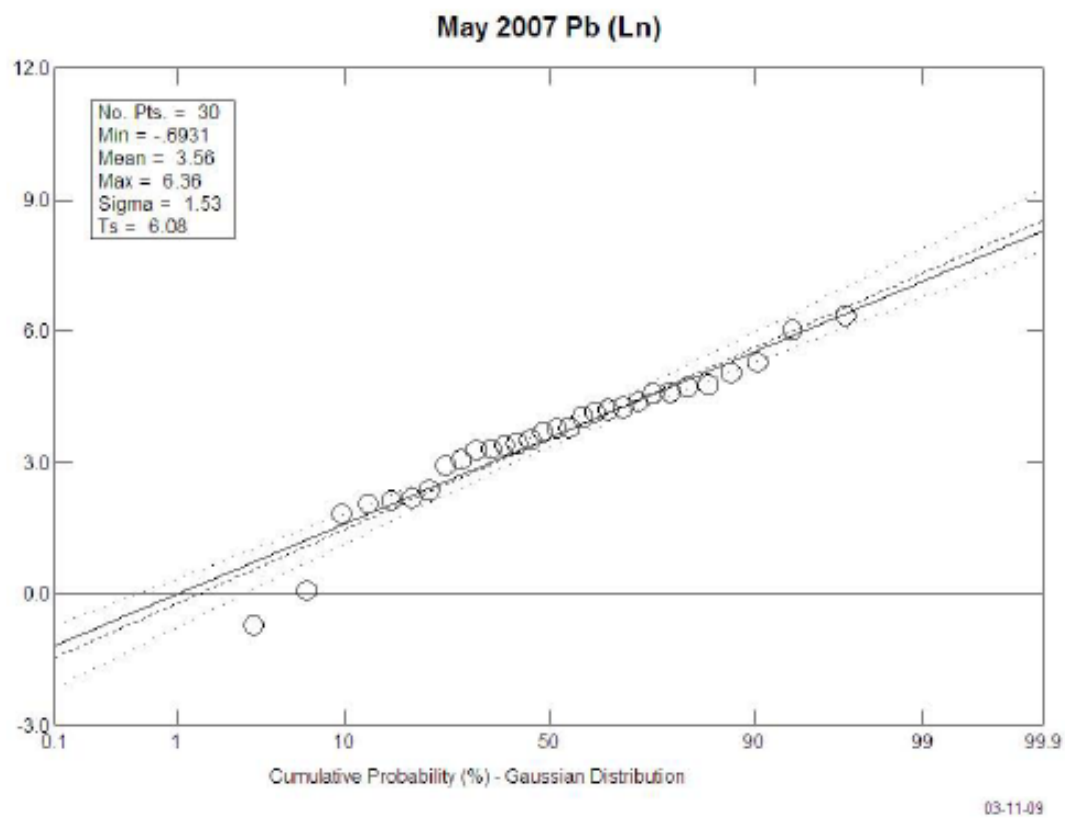
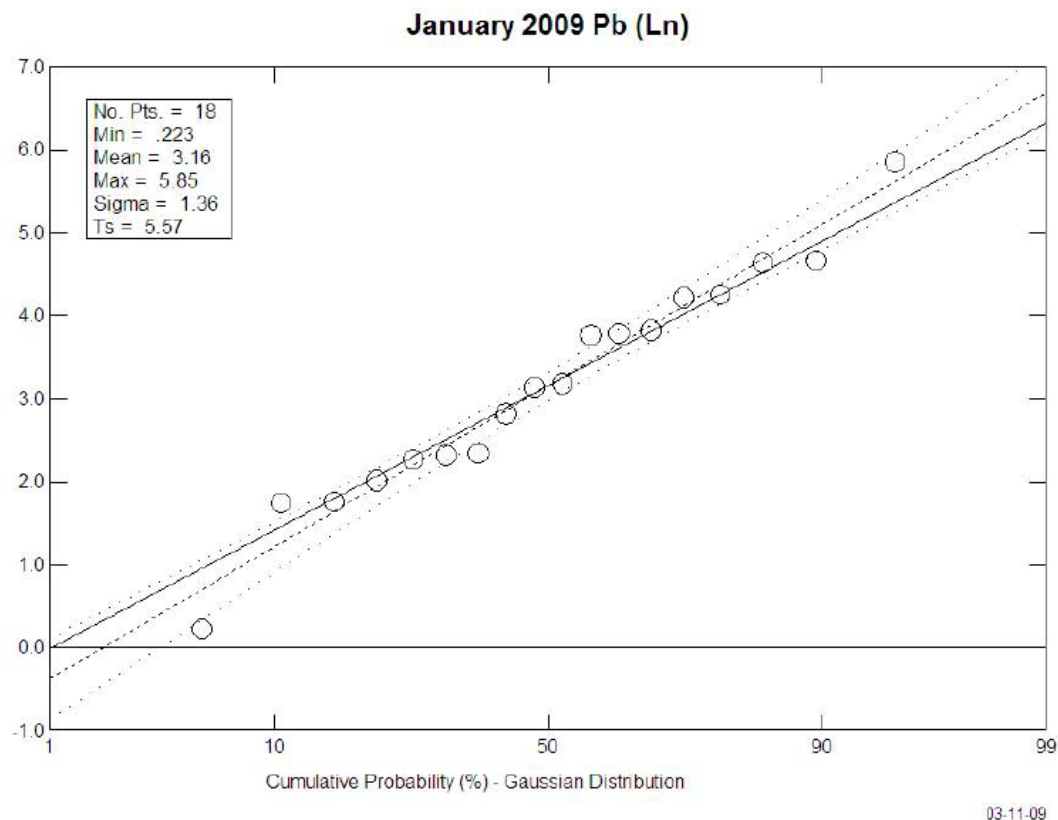


Figure 7. Cumulative Normal Probability Plot for Jan 2009



The results of the normal probability plot analyses indicate the following samples can be considered as outliers from the log-normal distribution:

Sampling Event	Raw Pb Outliers	Location
Apr-97	220	MW-02
Jun-00	152	MW-11
Feb-03	N/A	N/A
Dec-04	769	MW-11
Mar-05	N/A	N/A
May-07	416, 579	MW-11, MW-04
Jan-09	348	MW-11

Well MW-11 has been consistently identified as an outlier in both the cumulative normal probability plots and the KS difference testing. Well MW-11 is located in the northern section of Site 22 along with wells MW-02 and MW-04. The continuous identification of MW-11 as an outlier suggests a continuing source area on the site.

The geochemical association results to determine the presence or absence of a correlation between Pb, Mn, and Zn are shown in Figures 8 through 11:

Figure 8: Geochemical results (Raw Data Plots) for Zn vs. Mn

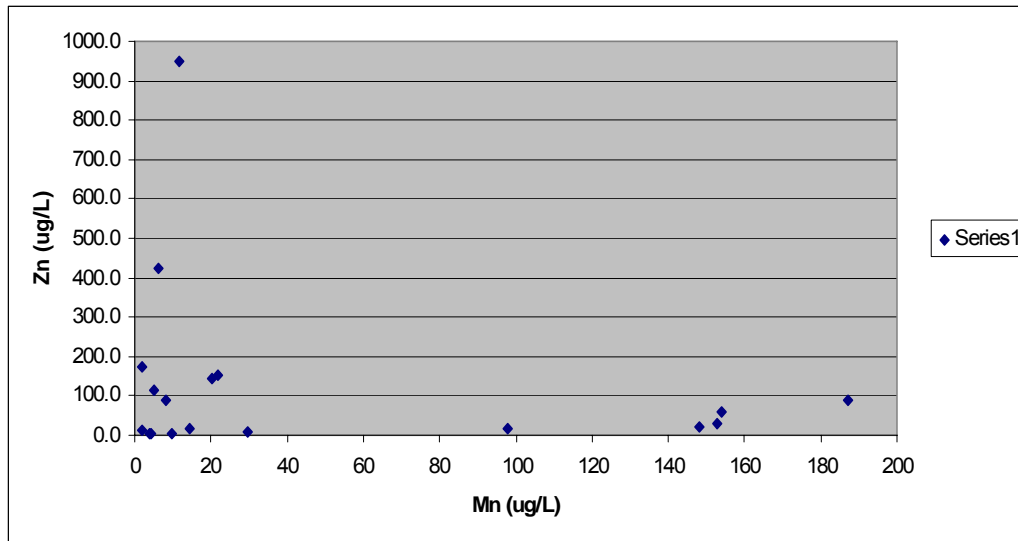


Figure 9. Geochemical results (Raw Data Plots) for Mn vs. Pb

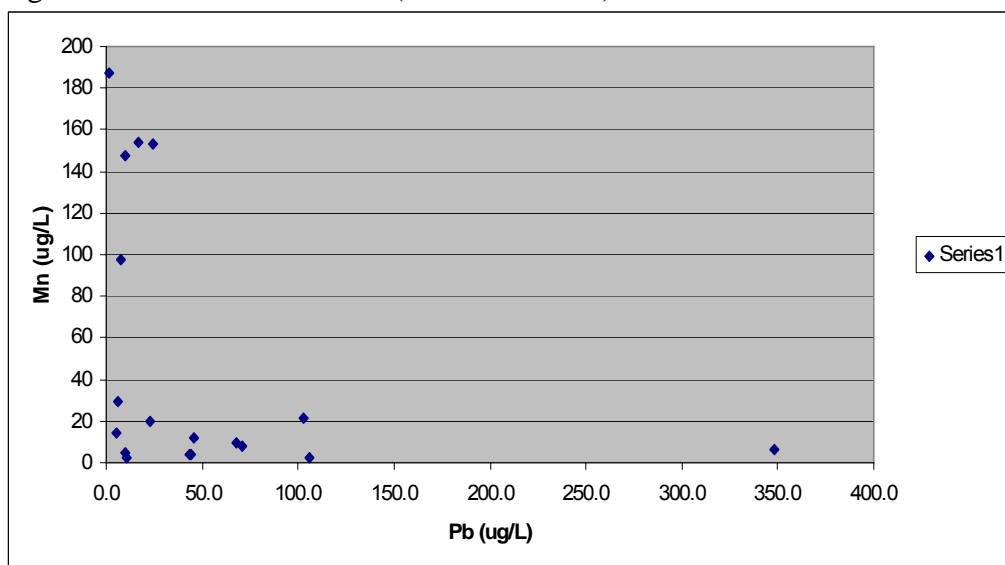


Figure 10: Geochemical results (Log-Transformed Plots) for Zn vs. Mn

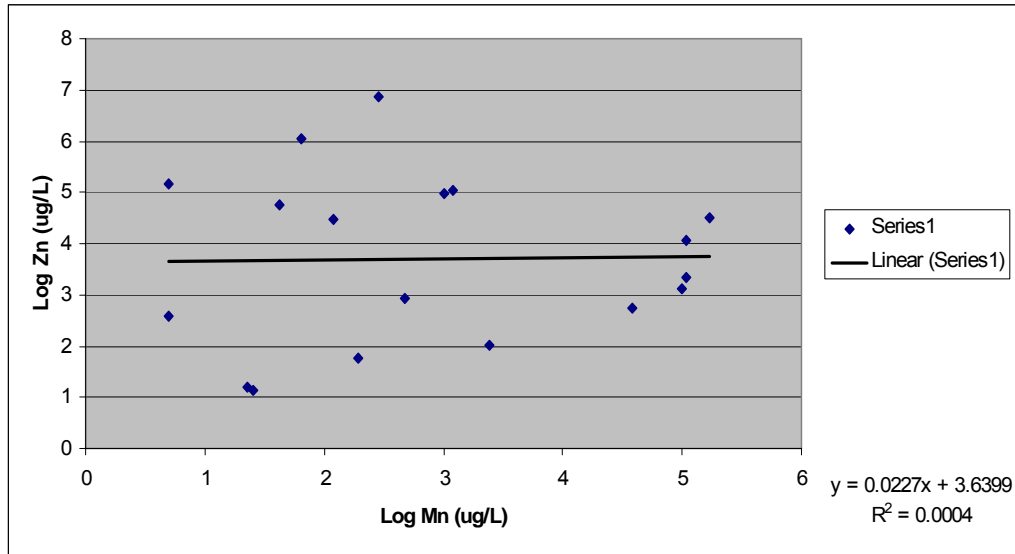
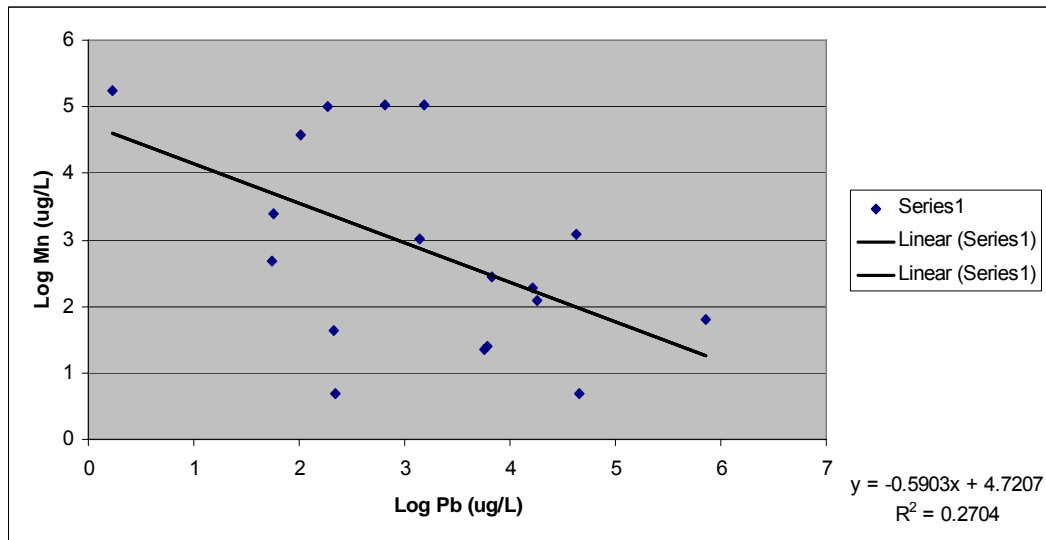


Figure 11: Geochemical results (Log-Transformed Plots) for Mn vs. Pb



The geochemical analyses indicate there is no significant correlation between Pb, Mn, and Zn.

Conclusions

The internal structure of the data clarified by ProUCL exhibited a positively-skewed lognormal or gamma distributions (EPA, 1997), which could be indicative of true contamination (elevated values) along with unimpacted samples, or it could represent a natural environmental distribution in which several samples are normally elevated due to natural variation. The MK analysis did not indicate a significant trend at 80% confidence

in the measures of central tendency over time, indicating no significant attenuation or augmentation of Pb. The degree of data variation using the CV suggests statistical instability, or a complex geochemical system whose variation, given the apparent lack of attenuation or augmentation, is likely due to natural environmental conditions (for example, seasonal fluctuations) and can result in a large natural variation in Pb. The results of the KS population distribution difference testing revealed no significant difference between the sampling events, again suggesting that the overall statistical pattern of Pb occurrence is stable. Outlier analysis using cumulative normal probability plots of log-transformed data indicate consistently identified outliers, suggesting presence areas that are relatively enriched or depleted with respect to Pb. Geochemical association results, shown on the included graphs, indicate that 1) there is no significant correlation between Mn and Zn in Site 22 groundwater; and 2) there is no significant correlation between Mn and Pb in Site 22 groundwater. The conclusion is that the Pb concentrations could in fact be site-related, and should be evaluated and managed consistent with the exposure potential to affected receptors (for example, meeting the MCL (if human ingestion is anticipated, or meeting the surface water standard if no human exposure potential is validated).

It is recommended that continued sampling be performed for Pb only, as the geochemical association between other inorganics is unremarkable. The Pb distributions should be subjected to central tendency evaluation, central tendency trend analysis, and population differential analysis with the immediate previous sampling event. Pb occurrence should be evaluated and managed with the appropriate site exposure scenario. In the event a concrete comparison of the Site 22 Pb concentrations should be allowed a point-break evaluation, it is recommended that a single upgradient, unimpacted location well inland from tidal influences in the shallow surficial aquifer be chosen as the representative comparator.

Lead in Groundwater - Installation Restoration (IR) Site 21, Naval Air Station Pensacola (NASP), Pensacola, Florida

Background and Purpose:

Lead concentrations in groundwater samples collected from IR Site 21 are elevated relative to NASP background (1.6 ppb, data presented in the Site 1 RI Report). However, there is not an apparent site activity or source for the elevated lead, and lead in groundwater has historically been higher near the waterfront with Pensacola Bay (see the IR Site 39 RI Report, 2004). Therefore, a statistical evaluation of the elevated lead was performed to determine the presence or absence of a statistical internal structure within the data (i.e. Presence of outliers that may represent contamination) and how the data relates to the other waterfront sites. Because of the lack of accompanying manganese data (an inorganic that is similar geochemically similar to lead), a geochemical correlation approach could not be performed. Instead, population modeling was performed, with the general objectives to define a) if there were lead outliers present at Site 21; b) if there were significant differences between sampling events; and c) using an appropriate measure of central tendency for each sampling event, whether a temporal trend in the data exists.

Source Data:

The Site 21 dataset is comprised of a total of 93 groundwater samples. For this analysis the Site 21 dataset was segregated into five separate sampling events (June 2000 [20 samples], February 2003 [6 samples], December 2004 [21 samples], March 2005 [7 samples], and May 2007 [39 samples]). The second dataset represents samples collected using low-flow technique and therefore have limited inorganic bias.

Technical Approach:

The statistical evaluation is designed to answer several questions: 1) Is there an internal structure (skewed lognormal or gamma distribution) to the dataset that suggests the presence of impacted outliers? 2) Is there a temporal difference between the measure of central tendency over time with the sample datasets? 3) Is there a significant difference between individual datasets?

Basis of the Approach:

The premise behind defining internal structure to the data is that contaminated sites exhibit biased sampling generally leading to exhibit positively-skewed lognormal or gamma distributions (EPA, 1997), which is caused by the presence of true contamination (elevated values) along with unimpacted samples. Generally, the identification and elimination of these elevated values (outliers) will result in a less skewed lognormal or a normal distribution. Therefore, if outliers can be identified in the Site 21 dataset, the evaluation results can provide a relative basis for targeting true contamination that should be used to evaluate remedial path(s) forward. The statistical distribution and 95% Upper

Confidence Limit (UCL) measure of central tendency of all datasets was performed using the EPA software ProUCL.

Determining the presence/absence of a trend over time in the measures of central tendency of the individual datasets is useful to assess the historical changes and can provide a predictive tool. To determine the appropriate measure of central tendency, the EPA software ProUCL at a 95% confidence level was used. Similar to defining the presence or absence of a trend, determining the presence/absence of a significant difference between the statistical distribution of the datasets is used to assess the elevated lead occurrence over time.

Statistical Analyses

In order to determine whether there was lead contamination at NASP site 21 several statistical analyses were performed. The following provides a short summary and sequence of the tests performed:

1. Population modeling of lead at Site 21 was performed versus geochemical modeling due to the lack paired manganese data;
2. Censored data treatment - Initially the censored data was pre-processed by assuming one half of the detection limit. The ND values change between the five sampling events depending on which lab performed the analysis and the sensitivity of their measuring equipment;
3. The statistical distribution of all Site 21 datasets (five events combined) was determined to be positively skewed lognormal utilizing the ProUCL mean;
4. The Site 21 dataset was segregated into five separate sampling events, and their statistical distributions were determined;
5. Cumulative probability plots were created for each event's raw and log-normal sampling values;
6. Outlier analysis was performed and identified outliers removed from each of the data sets - outliers are defined as values in a data set that are not true representations of the data set, that is, it is numerically distant from the rest of the data. Outlier were identified by three different tests, the z-test, visual discrimination using the cumulative probability plots and the Tukey outlier test;
7. The z-test is applied to discriminate between the sample mean and the population mean to find a significant difference which can be defined as an outlier. At a 95% confidence interval any value greater than 1.96 or less than -1.96 is considered to be different than the population. The visual discrimination of the cumulative probability plots identifies outliers by finding gaps or inflections in the cumulative probability plot relative to other data points in the sample set, and the Tukey outlier test defines outliers as any value above the third quartile or below the first quartile.
8. The distribution and 95% UCL mean of each of the Site 21 datasets was determined with and without the outliers present - The UCL mean is a test employed to find and define the numerical variability within a particular sample data set and to provide the best measure of central tendency based on the data distribution. For all of this data a 95% confidence interval was applied. A

- confidence interval this stringent defines a value that has a one in 20 chance or 5% probability of falling outside of the margins of that population mean;
9. Of the three outlier tests the z-test was the least stringent. If a normal or lognormal distribution was not found by removing outliers identified by the z-test then outliers identified by the other two tests were removed and a residual distribution recalculated.
 10. Trend analysis was performed using the changes in the 95% UCL mean –the technique utilized was the Mann-Kendall analysis at a confidence level of 80%;
 11. When enough samples were present in the five datasets, population differential testing was performed using T-tests (where data was normally distributed) and the Kolmogorov-Smirnov test – these tests provide a measure of the probability of the lack of a significant difference (or conversely a lack of similarities) of the distributions between data sets – a probability level of 90% is used in these analyses to indicate similarity or difference;

Results:

Tables 1, and 2 provide a summary of the statistical and outlier testing.

Table 1. Distributions, 95% UCL mean, and Outlier Identification

Sample	Statistical Distribution	95% UCL Mean (mg/L)	Identified Outliers
June2000 site 21	Lognormal - gamma	38.07	N/A
Feb2003 site 21	Lognormal - gamma	18.55	N/A
Dec2004 site 21	Lognormal - gamma	148.59	N/A
March2005 site 21	Lognormal - gamma	1365.64	N/A
May2007 site 21	Gamma	71.75	N/A
June2000 site 21 outliers removed	Normal	14.05	152, 88.4
Feb2003 site 21 outliers removed	Normal	6.07	22.9
Dec2004 site 21 outliers removed	Lognormal - gamma	82.17	769
March2005 site 21 outliers removed	Normal	84.70	1110
May 2007 site 21 outliers removed	Gamma	68.01	416

Table 2. Population Differential Testing

Sample	Statistical Test	Percent probability that there is a difference
June 2000 vs. Feb 2003	Student's t-test	56.0%
Feb 2003 vs. Dec 2004	Student's t-test	99.6%
Dec 2004 vs. March 2005	Student's t-test	53.0%
March 2005 vs. May 2007	Non-sufficient data	N/A
June 2000 vs. May 2007	Kolmogorov-Smirnov	99.6%
June 2000 vs. Feb 2003 outliers removed	Student's t-test	90.3%
Feb 2003 vs. Dec 2004 outliers removed	Student's t-test	99.8%
Dec 2004 v.s. March 2005 outliers removed	Student's t-test	33.0%
March 2005 vs. May 2007 outliers removed	Non-sufficient data	N/A
June 2000 v.s May 2007 outliers removed	Kolmogorov-Smirnov	99.9%

The following conclusions are made regarding the statistical analyses performed:

- 1 – All five of the Site 21 datasets prior to outlier removal are positively skewed lognormal –gamma or gamma distributed; this is suggestive of the presence of high end outliers and indicative of contamination;
- 2 – Locations NASP21MW11, NASP21MW18, NASP21MW23, NASP21MW43 were identified as hosting outlier values. NASP21MW11 was sampled 3 out of the 5 events and hosted an outlier value 100% of those times. NASP21MW18 was sampled 2 out of the 5 events and hosted an outlier value 50% of those times. NASP21MW23 and NASP21MW43 were sampled 3 out of the 5 events and hosted an outlier value 33% of those times.
- 3 – With outliers removed, three of the five Site 21 datasets exhibit a normal distribution (suggestive of no contamination), two datasets remained as lognormal-gamma or gamma distributed.
- 4 – Despite one very low measure of central tendency (February 2003), the 95% UCL mean calculated with outliers removed did not exhibit a trend at an 80% confidence level;
- 5 – Population differential analyses indicate that there is a significant difference between the February 2003 and December 2004 event (the February 2003 event is characterized by the lowest relative 95% UCL mean and the lowest sample size);

Limitations and Conclusions:

The primary limitation in the statistical analyses is the assumption that each of the Site 21 sampling events is equally representative of site conditions. As a result, less confidence should be placed in the datasets with smaller numbers of samples. However, the primary evaluator for the differential analysis with the other Pensacola sites is the May 2007 sampling event, which is the most recent and most comprehensive.

Elevated lead has been noted previously in areas near the waterfront, and therefore elevated lead at Site 21 is not to be unexpected. It is recommended that the outlier locations be viewed proactively with respect to potential remedial options, and that a comprehensive sampling be performed for both lead and manganese – this paired data can then be used to confirm the outliers and to provide a geochemical interpretation of the lead occurrence.